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THE

MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

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Volume 29

DECEMBER 26, 1885—JUNE 26, 1886

NEW YORK
WILLIAM WOOD & COMPANY
1886

41.A326
v.29

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The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 1 NEW YORK, JANUARY 2, 1886 Whole No. 791

Original Articles.

THE ART OF PRIMARY UNION, OR UNION BY ADHESION, IN LARGE INCISED WOUNDS.

BY FRANK H. HAMILTON, M.D.,

NEW YORK.

IN the following pages I shall employ the terms "primary union," "union by adhesion," "union by coagulable lymph or by fibrin," and "union by adhesive inflammation" as synonymous, recognizing no other forms of primary union than those which have been thus variously designated by different writers, and of which the last mentioned is, perhaps, the most representative.

The conditions requisite to insure "primary union," or "union by adhesive inflammation," in large incised wounds, are:

First, a good, or at least an average state of the general health, and especially the absence of any systemic infection or dyscrasy, such as pyæmic or septicæmic infection, struma, syphilis, etc.

Second, the removal of all foreign bodies from the wound.

Blood is a foreign body. It must therefore have ceased to flow, and such as remains upon the surface must be carefully removed. It must be rendered certain, also, that it will not again flow after the wound is closed.

Soon after the infliction of the wound, when the bleeding has wholly ceased, serum, a product of the first stage of reaction, begins to be poured out, and in greater or less amount, according to the extent of the surface exposed, and the degree of the reaction. Equally with blood it is a foreign substance. If effused in small quantities, however, it may be absorbed; but if effused in large quantities it will not be absorbed, and will as effectually prevent primary union as the presence of blood; and since it often continues to flow for three or four days after the wound is closed, it will be necessary, in many cases, to provide for its escape by suitable drainage.

Third, lymph, or as it is also called, coagulable lymph, soon begins to be effused, coincident with the second stage of reaction. If the reaction does not exceed certain bounds it is euplastic, and is the material by which, or through which, primary union is to be established. It coagulates readily, and its presence upon an open wound is usually indicated by the glazed appearance of the surface. It is advantageous, therefore, to leave the wound open until this appearance is presented.

Fourth, in the cleansing, closure, and dressing of the wound every precaution must be taken not to do any unnecessary violence to the parts, either by the hands, the sponges, sutures, adhesive strips or bandages, or at a later day in the renewal of the dressings, since all these things tend to increase the inflammatory reaction, and to carry it beyond the limitations which are assigned to the effusion of euplastic lymph. In short, they precipitate suppuration.

The same conditions are requisite for securing primary union in *contused* and *lacerated* wounds as in simple incised; but in consequence of the immediate devitalization of the tissues, resulting in the formation of sloughs, or of the excessive inflammatory reaction occasioned by the violence done to the parts, the portions of these wounds which will be permitted to unite by adhesion will be comparatively small; and in some cases the promise in this direction is not sufficient to warrant the attempt.

The several conditions above named as necessary for the union of large wounds by adhesion are not now for the first time declared. Their first enunciation was made substantially in the latter part of the last century, and were repeated often by systematic writers. They were a part of my earliest lessons in surgery, and have been taught and practised by me during all my professional life up to the present time. I believe, also, that a strict compliance with these rules constitutes the only grounds for the superior success of some surgeons, as compared with the success of others, at the present day; and if their success is greater than that of surgeons who fifty or one hundred years ago practically applied these rules—and I am willing to concede that it may be, although it is not proven—it is because they have more exactly complied with the conditions named.

In order to place before you satisfactorily my grounds for this belief, it will be necessary to recall, briefly, the history of this department of surgery.

As to the best mode of treating large incised wounds the opinions of surgeons have differed in different periods of the history of surgery. These periods have usually been arranged under two divisions, namely, the earlier period, in which it was taught almost universally that they must be left open, in order that they might unite by granulation; and the later period, dating from the latter part of the last century, in which it has been taught that they should be closed, and encouraged to unite by adhesion.

It will appear, however, that during the latter part of the second period, for one reason or another, the practice, if not the teachings, of surgeons has at times greatly faltered, if it had not at one time, not very remote, gone back fully to the practice of the first period. Surgeons again preferred to leave their large wounds open, to suppurate and close by granulation. Certainly very many practised it, and not a few publicly taught that this was the best method. This lapse of faith has happily been overcome, and confidence in union by adhesion is today completely restored. The probable causes of these fluctuations of opinion will, perhaps incidentally, be made apparent in the following history, although my main purpose is to show that the principles underlying success are the same now as they always were.

The first serious attempts to secure union by adhesion after large amputations were made by Edward Alanson, of Liverpool, whose book, entitled "Practical Observations on Amputations," was published in 1779. His practice and opinions soon found acceptance with the large majority of surgeons in all parts of the world. They were adopted by Hey, Percy, Lucas, Guthrie, Syme, Liston, and Bennett, in England; by Pirrie in Scotland; by Velpeau; Dubois, Boyer, Dupuytren, Delpech, Richeraud, and Roux, in France, and by most of the German and American surgeons.

In what manner this union was to be accomplished, they have constantly, with more or less minuteness of detail, informed us.

Alanson speaks of the importance of securing every bleeding vessel, of drawing the arteries out with a tenaculum, so that the ligatures shall not include other tissues, and thus form sloughs or delay their removal; of making the flaps so long that they will come together without strain, and of securing proper drainage.

Says Velpeau, speaking of incised wounds in general: "In order to attain this end, we must give to the dressing more care and time than is ordinarily given to it; the section of the soft parts should be neat and regular; the integuments should fall without effort on the front part of the stump." . . . "All the arteries liable to bleed should be immediately tied or twisted; the sides of the wound, freed from foreign substances, should touch throughout their whole surface." . . . "The straps should do no more than preserve the coaptation, without pressing or exercising any drawing force." . . . "The suture should be added to them, or even preferred, if the skin is thin or tends to roll inward; the diseased parts should be afterward kept in the most perfect immobility, and the inflammation should be moderated by every possible means."

When speaking of amputations Velpeau repeats in effect the same instructions.

Most of these surgeons have referred in their writings to the necessity of waiting until the surface of the wounds becomes *glazed*, before closing them.

"After a time," says Bennett, "the surface is glazed, as it is called;" and it is at this period that he recommends the closure of the wound.

Says Pirrie: "All oozing having been completely arrested, foreign matter removed, and the surface having taken on a glazed appearance," we may proceed to close the wound.

Not a few of the most distinguished operators went much farther both in their teachings and practice.

Mr. Syme says wait six or eight hours before closing the wound.

Velpeau says that "in order to arrive with more certainty at this result, Parrish, in America, and also a great number of surgeons in England and Germany, and Dupuytren, in France, have established a precept not to dress recent wounds but after the lapse of some hours." Dr. Townsend, in a note to the American edition of Velpeau, says that Dr. Valentine Mott "approves very highly of leaving many wounds exposed for some time, even for an hour or more."

Of those mentioned above, Mr. Syme subsequently modified his opinion so much as to permit the dressing to be made at the same time as the amputation.

Even at a date much later than any writer which has been hitherto mentioned, Mr. Erichsen has said, "Hence in the dressing of surgical wounds, such as stumps after amputation, and in all cases in which it is advisable to attempt to procure union by adhesive inflammation, the cut surfaces should not be brought together for a few hours, until all oozing of blood has ceased and the fibrinous layer has been thrown out."

It needs to be said that, following the example of Mr. Syme, after a time most surgeons relinquished the practice of waiting several hours before closing the wound, both because of its inconvenience and because in most cases the glazed appearance was found to be present sufficiently early to enable them to do so without compromising the desired result.

Alanson, Syme, Liston, and probably all the systematic writers of this period, taught the necessity of not only stopping all bleeding, but also of providing for the escape of serum by suitable drainage. Mr. Syme, in 1825, wrote a paper in which he spoke of the flow of serum as "invariable," and of the absolute necessity, therefore, of providing for its escape.

Let us now inquire what were the results of this plan of treatment, which was substituted for the open treatment, and which found favor with so many—nearly all, indeed—of the most practical surgeons at the close of the last century and up to a late period during the present century.

Alanson declares that, under his improved treatment, of 35 cases of amputation of the leg and thigh. at the public hospital in Liverpool, he did not lose one, while of the preceding 46 amputations he had lost 10.

Mr. Liston, a pupil of Syme's, says, that of the last 20 cases of amputation of the thigh for chronic disease, which he had seen performed by Mr. Syme under this plan of treatment, not one died; and this although some of them seemed in a nearly hopeless condition at the time of the operation.

Of 92 soldiers treated in this manner on the field of battle by Percy, 86 were cured in twenty-six days; and of 70 cases thus treated by Lucas only 5 died.

It is true that Pelletan, who did not favor the practice of attempting union by adhesion, lost 5 out of 6 treated by himself; but it is sufficiently apparent that he had not complied with two of the most important conditions of success, when he declares that in all the fatal cases the autopsy showed the presence of blood, as well as of pus, between the surfaces of the wounds; and that in the only case in which recovery took place the accumulated pus forced off the adhesive straps. He had neither secured the bleeding vessels properly, nor provided for drainage.

What treatment, either ancient or modern, has presented a better record than this furnished by Alanson, Syme, Liston, Percy, Lucas, and, so far as we know, by the faithful disciples and distinguished advocates of their practice?

It is scarcely necessary to remind you that these results were obtained before the introduction of anæsthetics or of antiseptics.

In the face of these remarkable and universally conceded successes, which contrasted so strongly with the slow and uncertain results of the earlier practice, it is hard to understand how any steps backward could have been taken; but this is what actually happened, the retrograde movement commencing even before the distinguished advocates of the new system had died. Here we enter that point in the history of the treatment of wounds to which I have already referred, as that in which the practice of attempting to obtain union by adhesion "faltered," and surgeons were everywhere returning to the practice of leaving their large incised wounds to suppurate and granulate. Of the fact as now stated there is no question. How this change was brought about I will now attempt to explain, and also how, through the agency of one man, Mr. Lister, the practice of union by adhesion was happily restored.

In the first place, to comply with all the conditions demanded for union by adhesion requires time and painstaking. It demands scrupulous attention to the most minute details. To omit one of the many conditions named is, in most cases, as fatal as to omit the whole. Celerity is here inconsistent with success. Surgeons, therefore, who wish to acquire a reputation as "brilliant" operators, are likely, especially in their public or hospital exhibitions, where their example can do most harm, to fall short of the requisition, and then, by their failures, to bring discredit upon the system they teach and are attempting to follow.

Second, war is unfavorable to this department of surgery. The exigences of the battle-field do not supply the time, nor the appliances necessary for the application of all the principles involved in primary union. There are many occasions on the field of battle when the demands upon the surgeon to save the life of the patients temporarily, must be paramount to all other considerations, and in which, as Armand has said, the only precept is, *cite, citissime.*

Macleod says, speaking of his experience in the Crimean War, "I never saw one case among our most numerous amputations in which primary adhesions took place throughout the whole surface of the flaps."

My personal experience in our own late Civil War was that primary union after large amputations was the exception; and that toward the close of the war army surgeons were everywhere returning to the practice of open dressings. This lack of success in their attempts to secure primary union upon the field induced, it is fair to suppose, on the minds of many who did not sufficiently

consider the causes of their failures, a general lack of confidence in the plan, which led them to reject it even after they returned to civil practice.

If Percy had better success as an army surgeon in securing primary union than most other surgeons have had, it was because he was better able to comply with the conditions.

Third, the introduction of anæsthetics has had no inconsiderable influence. My own experience has not furnished me with any evidence that general anæsthesia has appreciably delayed the union of tegumentary wounds, or of the majority of small wounds, when they occur in most of the other tissues of the body. What the fact may be in this regard, I am unable to say, nor would it perhaps be very easy to determine; but in reference to its effect in large muscular wounds, or in major amputations, and especially where muscular flaps are made, I have no doubt their union has been thereby delayed and often prevented.

I practised surgery some years before the introduction of anæsthetics, and soon after I began to use them it became a matter of common observation with me, and of comment, that the same measures did not so often insure primary union as before. I think also that Macleod's experience in the Crimean War, already referred to, goes further than proving that amputations made under these circumstances do not usually comply with the conditions of success. He says that "chloroform was almost universally used in the British army." If, then, he was unable to meet with a single case of complete primary union, it seems fair to charge a part of this result to the general use of chloroform.

But aside of any specific testimony upon this subject, let me appeal to the reader's intelligent judgment. When large flap amputations are made while the patient is completely under the influence of an anæsthetic, in addition to the total loss of sensibility—for which both operator and patient have reason to be thankful—we observe that the muscles do not quiver and retract under the knife, that they hang apparently lifeless from the wound as they do when made upon the cadaver, and that they do not wholly resume their normal contractility and position until some hours after the operation is completed. The arterial blood is dark, and can scarcely be distinguished from the venous, showing that it is imperfectly oxidized. The surface of the wound has a dark, grumous look, wholly unlike the appearance presented under other circumstances.

Is it reasonable to suppose that the effusion of lymph, so as to give a glazed appearance to the wound, and which is essential to primary union, will not, under these circumstances, be delayed? and that this delay will not often extend beyond the period when primary union is possible? For myself, if I were asked this question, and no evidence were presented on either side, I would say it must necessarily be delayed.

I have been speaking thus far of the circumstances which seem to explain why surgeons for a while faltered in their faith in primary union. This explanation, however, which may or may not be correct, was not necessary to the historical sketch which I proposed to make. The material point is, that for a time surgeons did actually treat wounds as if they had forgotten the conditions of success, or had lost faith in the earlier teachings.

In attestation we have only need to recall what we have often witnessed in the public amphitheatres in this city and elsewhere during the last twenty or thirty years; large flap amputations, made dexterously, but afterward the surfaces of the wound rudely handled, fretted by rough sponges, the wounds closed before the blood had ceased to flow, then hermetically sealed by adhesive straps, without provision for drainage, and hurried from the amphitheatre to make way for another brilliant operation.

To one who has only observed the results of this method of treatment, without having given attention to the means by which they were brought about, the sole conclusion must be, that it would be far better to return to the old practice of leaving the wounds open, since nothing short of a miracle could secure primary union; and this is precisely the conclusion to which, within a few years, some surgeons have arrived.

We have now reached the period in the history of surgery when Mr. Lister interposed, and turned back the tide. He taught that under a most thorough system of antisepsis primary union could be secured; and he demonstrated that it could be secured even after the most profound anæsthesia. This was the great lesson which he had in his mind, and which he successfully taught; but he taught also, incidentally, that the wound must be handled gently, all foreign substances must be removed, the blood must cease to flow, and provision must be made for drainage. In short, if you will look carefully into his teachings and practice, and the practice of his disciples, you will see that they omit nothing which, in the opening of this paper, I declared essential to success; and I venture to say, that if they did, no amount or quality of antisepsis would secure union by adhesion.

The influence of Mr. Lister, backed by his specious theories, secured a return to the old practice of the advocates of primary union in all its essential details, and to this it added antisepsis. Fortunately, antisepsis carried with itself, inseparably, one thing more, namely, the agency of a moderate stimulant and astringent, which served materially to resuscitate the tissues and the capillary vessels which had been temporarily paralyzed by the general anæsthesia, and thus in some measure to counteract its deleterious effects.

As to his practice of removing carefully and effectually all foreign substances before closing the wound, and providing for the escape of the serum or blood which might subsequently be effused between the cut surfaces; and as to his practice of applying industriously, so long as the wound was open, a moderate stimulus to the cut surfaces in the form of spray or lavements of dilute carbolic acid—these are *facts* which admit of no dispute. But as to his declaration that the results which he obtained were due to the destruction of certain microorganisms constantly floating in the atmosphere, and which being received and propagated upon the raw surfaces prevent primary union, or which being conveyed into the system by absorption cause septicæmia—this is only a *theory*, and one which is far from being universally accepted. It has not been conclusively shown that the formation of pus depends in any case upon the presence of germs. When suppuration takes place in closed cavities these germs are generally absent; but as if to show how impossible it is to prevent their pernicious intrusion—in case it be admitted that they can or do cause suppuration—they are occasionally found in great numbers in cavities which have never been open to the air.

If germs are so readily absorbed by open surfaces, and distributed through the system, of what possible use is it to commence the application of the antiseptics one or several hours after the reception of a wound, or months after the skin has been destroyed, and then apply it with so much assiduity, so long as the knife of the surgeon or his hands are in the wound?

If, on the other hand, the germs are not so easily absorbed, and only nestle upon the surface of the wound, why, instead of using the antiseptic from the beginning to the close of a surgical operation, is it not sufficient to apply it thoroughly just before closing the wound?

There is one quality or property of antiseptics to which allusion has not yet been made, namely, their power to prevent the decomposition of blood, of pus, and of serum; the decomposition of either of which changes these otherwise comparatively innocuous fluids into an irritating ichor. But when employed for this purpose they can serve no useful end, except when blood, serum,

or pus are actually present. To apply them, therefore, immediately preceding the closure of the wound, and whenever subsequently blood, serum, or pus present themselves, or seem likely to present themselves, is rational, and would justify their employment also, within certain limitations, in all cases, after the closure of the wound and until the end of the treatment; but it supplies no argument for the adoption of all the complicated procedures with which Mr. Lister and his disciples preface and encumber their operations.

The conclusion to which we are brought is, that while we are indebted to Mr. Lister for having restored confidence in union by adhesion, it seems equally certain that his excellent results have been obtained, not by a literal compliance with the rules which are the logical deduction from his theories, but by his strict enforcement, in the practical application of his theories, of certain other conditions, which he seems to regard as accessory and incidental, rather than of paramount importance.

If this conclusion is correct, then there is not sufficient reason why the air of a room in a private house, or even in a public hospital, not suspected of being infected by some contagious or infectious disease, such as diphtheria, scarlatina, erysipelas, etc., should be disinfected before an operation is performed, or why all persons present should have been previously disinfected, or that they should be required to breathe through disinfecting respirators, or should wash their hands in carbolized water, or search beneath their nails for concealed germs, or why they should carbolize their instruments, or why, indeed, they should pour a constant stream of carbolized water or of spray upon the wound while operating, except, as I have already stated, for its utility in closing the capillary vessels, and its power in restoring tone to the paralyzed tissues when anæsthetics have been employed.

The various manipulations and devices for the purpose of excluding the germs above enumerated have at one time or another been suggested by Mr. Lister or his disciples, and, in my opinion, they are all necessary if Mr. Lister's theory be correct. If it be not correct, they serve no other purpose than do the walking, talking, and gestures of the prestidigitator. They abstract the attention, and conceal the adroit manipulation by which the trick is actually performed.

I say this with all respect for the integrity of the distinguished surgeons who hold strictly to Mr. Lister's opinion and practices, since in one particular they differ from the class to which I have compared them. The prestidigitators are not deceived, but deceive their audiences; while Mr. Lister and his disciples deceive both themselves and their audiences.

It will be observed that I have thus far spoken only of carbolic acid as an antiseptic, since it is that which was first used by Mr. Lister, and still continues to be more commonly used than any other; but I am aware that surgeons have lately substituted many other things for carbolic acid, and with equally satisfactory results; and that many who continue to prefer carbolic acid have rejected the continuous spraying, and in several other particulars have modified the treatment. At the present moment a weak solution of the bichloride of mercury is the most active contestant of the alleged superior virtues of carbolic acid.

In a paper read before the New York County Medical Association in February, 1885, Dr. Theodore R. Varick, surgeon to St. Francis' Hospital, Newark, N. J., states that he has for nearly six years substituted hot water, or water a little below the boiling-point. Immediately after the larger vessels have been tied, he applies the water freely and continuously to the raw surfaces until all oozing has ceased and "the parts are thoroughly glazed." The effect of this is, as claimed by Dr. Varick, to coagulate the albumin in the serum, by means of which the open vessels are closed against the admission of germs, and to impart a moderate stimulation.

In a private letter Dr. Varick informs me that of thirty-nine major amputations thus treated, mostly in cases of railroad accidents, only two terminated fatally, one by hemorrhage and one by cardiac disease; and that in all of the various operations performed by him there has been no case of septicæmia or of pyæmia, "although in several instances the hygienic surroundings have been of the worst kind."

Dr. Varick attributes his remarkable success, which is probably equal to that obtained by those who adhere to the use of carbolic acid, or of the bichloride of mercury, to the power of hot water to close hermetically the capillaries, and thus to prevent the admission of germs. Since, however, in most of his cases—railroad injuries—there must have been extensive exposure of the vessels by laceration, it is again difficult to understand, as I have before suggested, how they can be excluded when the door has been left open for some hours before the patients came under his notice. In short, while I fully approve his practice, and have myself often adopted it, I do not accept his theory.

Mr. Lawson Tait, in reporting "a series of one hundred and twelve consecutive cases of consecutive operations for ovarian and parovarian cystoma without a death," and in which no antiseptics were employed, says: "I tried the so-called antiseptic system in all its ever-varying details in as complete and unprejudiced a series of experiments as I believe it possible for man to undertake." . . . "I finally came to the conclusion that my patients were being poisoned by the use of carbolic acid, thymol, and various other substances, which were being used by others as well as myself for the purpose of destroying the germs which were supposed to do so much harm," . . . and he adds, that his experience had proven to his own satisfaction conclusively that he "could do better without Listerism than with it; that, in fact, the only tendency of this so-called antiseptic system was to mar" his success.

In the light of all that has already been said upon this subject no one familiar with Mr. Tait's careful and painstaking mode of operating, will fail to see where lies the real secret of his hitherto unparalleled success, and which he himself says is due to "increased personal experience, increased attention to all the minute details which go to create success, and inattention to any one of which may defeat the best-laid plans." "In every case," he adds, "where there has been a tendency to ooze, or where the patient has been advanced in life, I have used the drainage-tube, an addition to our means of saving life of which it is impossible to speak too highly."

I agree fully with Mr. Tait, that this simple narrative of his personal experience, the accuracy of which is assured by his acknowledged integrity, and by abundant collateral testimony, ought to "dispose forever of the much-discussed question of Listerism in abdominal surgery"

Incidentally I will add that it ought to furnish a beam of light to those surgeons who, during the last three or four years—ever since the death of President Garfield—have been prophesying the brilliant future of gunshot wounds of the belly under a "strictly antiseptic treatment," according to whom the time was near, if it had not actually arrived, when, under the protective influence of antisepsis, surgeons would open the belly freely, unravel the intestines and close their wounds, search carefully through every pocket of the peritoneal cavity, and, if need be, dissect and explore the regions outside of the peritoneum, and, having found and removed the lost ball, they would wash out the fecal matter and the blood which had necessarily escaped into the peritoneal cavity, and close the abdominal wounds, with a reasonable probability of restoring the patient to life and health. The fact that the vertebræ had been penetrated and were crumbling would constitute no bar to success; and indeed nothing would interpose a serious obstacle, except that the missile had lacerated some important blood vessel, or had buried itself in some solid viscus, a fact

which perhaps nothing but an ante-mortem or post-mortem dissection could determine.

These inspired revelations, uttered sometimes with a certain tone of regret for the lamentable ignorance of those who have lived before them—generally by men who have had little or no personal experience in the treatment of such wounds, and who certainly never practised successfully what they foresaw in their prophetic vision—still wait for fulfilment, notwithstanding the many thousand opportunities which both civil and military experience have since furnished.

I am not prepared to say that surgeons have not exaggerated sometimes the dangers and difficulties of searching for balls which have entered the cavity of the belly; but I do not think so; and I believe that all surgeons who have had much experience in this class of injuries will agree with me. I only intend to say that antisepsis has in no degree abated these dangers and difficulties.

Before dismissing this subject it seems necessary to consider briefly certain relatively modern suggestions, other than antisepsis, which have been made for the purpose of securing the primary union of large incised wounds.

"Bruising" the vessels, first suggested by M. Briot, and "torsion," which owes its introduction to M. Velpeau, are both still practised upon the small vessels with a certain degree of success, but in my personal experience both have more often failed.

Veitch, in 1806, used for the ligation of both large and small vessels very fine silk, and cut off the ends, leaving the knot in the wound to become encysted; but as small abscesses subsequently formed in many cases, Ruysch, of Germany, and Physic, of this country, substituted animal ligatures, and treated them in the same manner. Valentine Mott says, like the silk ligatures they often formed abscesses, and after a short time their use was almost entirely abandoned.

At the present time we see the practice of using the animal ligature revived, but only, for the most part, in its application to small vessels upon the surface of the wound. In this manner they are now used quite freely, and no doubt serve the purpose of shortening the period we may have to wait before closing the wound, and of giving additional security against secondary hemorrhage during the early period of reaction. Notwithstanding the statements made to me by some surgeons, that they have seen no abscesses follow their use, this has not been my experience. In at least two cases out of the few in which I have adopted this practice very small abscesses have formed. I must, therefore, consider the method as still under trial.

The substitution of cloth or a towel for the sponge, as a means of removing the blood from the surface of the wound, made, as I understand, for the purpose of protecting the patient against septic germs, is subject to the criticism that it is illogical. If germs can be destroyed which lie exposed upon the surface of a wound, or upon instruments, they can equally be destroyed when they lie secreted in sponges, by a thorough saturation with some disinfectant, or by boiling water; and if they cannot be so disinfected, neither can the towel be. I observe, however, that in using the towel it is only laid upon the surface, not drawn roughly over it, and in this practice I see a positive gain. When a sponge is drawn roughly over the quick and sensitive wound, in the case of a patient who is not anæsthetized, it causes most acute pain; and although when the patient is insensible it can no longer cause pain, it can fret and partially disintegrate the surface as when rasped by a file. If surgeons' assistants cannot learn how properly to use a sponge, let them use a towel.

Drainage-tubes made of bone, from which the mineral structure has been removed, and which, therefore, may become dissolved or even absorbed, present no possible advantage over the ordinary india-rubber flexible tube, except that, if by any accident they should escape into the wound, they will take care of themselves and probably do no harm. The objection to them is, that they are short and inflexible, and cannot be made to follow a long and tortuous canal.

In closing the wound some modern surgeons have given the preference to metallic sutures, others to the animal sutures, or to horsehair, for each of which it is claimed that they cause less irritation than silk, and in this way improve the chances of primary union.

Any suture, no matter of what material composed, will cause irritation and suppuration at the points of pressure, if it is employed upon tegumentary tissues for the purpose of drawing the lips of the wound together forcibly, as when, owing to a deficiency of structure, they could not otherwise be made to meet; but I have elsewhere explained that this is not, in tegumentary wounds, and but rarely in any wound, the proper function of a suture.

In the class of cases now under consideration, where we desire prompt primary union, the suture is intended only to place the edges of the wound in accurate apposition, and to prevent inversion. For this purpose the finest silk suture, introduced as near the margin of the wound as possible, and tied lightly, is the best. It will cause no more irritation than the wire or horsehair, is much more flexible and adjustable, and is, therefore, much more easily and painlessly introduced and removed. The accuracy of these statements I have frequently verified by employing the two materials on different parts of the same wound.

The value of the animal suture consists solely in its being spontaneously removed. If it be claimed that its value, as now generally employed, consists in its being carbolized, the reply is, that the silk may be treated in the same way. The only objection which I have to its use is, that it is less flexible that silk and is not so fine as the finest silk.

Hot water, as a means of imparting a healthy stimulus to paralyzed tissues, of arresting capillary hemorrhage, and of removing the blood from the surface of the wound, has long been employed by me, applied by means of a sponge. The suggestion of Dr. Varick, to apply it in an interrupted stream from the nozzle of a pipe connected with a reservoir, in the same manner in which the antiseptic solutions are now often employed, commends itself theoretically and by its results. A current of hot water, falling with moderate force upon the wound, not only removes the blood from the surface, but also washes it from the tissues where it has accumulated around the bleeding orifices of the small vessels, exposes them to view, and enables the surgeon to apply a ligature if required. It also coagulates the albumin, and for this reason, if for no other, it ought to be satisfactory to those who believe that by the interposition of this shield the vessels are protected from the intrusion of germs; while it is absolutely innocuous, a quality which is not possessed by any of the antiseptics, so called, now in use. The occasional toxic effects of carbolic acid and of the bichloride of mercury, in their surgical application, are known and admitted by all the advocates of antisepsis.

Dr. Varick recommends that the water have a temperature "slightly below the boiling-point." This might do if one were to apply it by means of a sponge, and then only for an instant, as I have often done to close a bleeding arteriole; but if employed continuously, or by irrigation, through the nozzle of a tube, it ought not to exceed in temperature 112° or 115° Fahrenheit, or the temperature which may be easily borne by the naked hand.

Finally, I wish to say that while it seems to me capable of demonstration that the real secret of Mr. Lister has lain concealed under a series of complicated manipulations, my confidence in the intelligence of my professional brethren is such that I believe they will soon abandon all those procedures which are irrelevant and wholly unnecessary to success. This is what they have already begun to do. In addition to those whose names I have mentioned, Mr. Keith, Mr. Callender, Mr. Savory,

and Mr. Bryant, have publicly declared their non-acceptance of the doctrines of Mr. Lister, as have also a considerable number of equally distinguished French and German surgeons; and the number of those who have, after a fair trial, substantially ceased to practise them according to his theory, is constantly increasing. Let us take care, however, that in severing our attachment to certain theories and practices, we do not loose our hold upon anything, whether new or old, which is really useful.

Antiseptics have their position and function in a great variety of wounds, including large simple incised wounds, under certain circumstances, and at certain stages of their progress. What this position is in the latter class of cases—whether it be dominant or subordinate—I have sought to explain.

EXTRA-UTERINE PREGNANCY—A NEW DIAGNOSTIC SYMPTOM OF RUPTURE.

By J. J. E. MAHER, M.D.,

NEW YORK.

On September 15, 1885, I met in my practice with a case of sudden death from an obscure cause. The patient was a lady, aged thirty-two years, a blonde, five feet three inches in height, and weighed one hundred and twenty pounds. She possessed a good physique, powerful endurance, and rather neurotic temperament. She had been a book-folder for five years previous to December, 1884, when she became a sewing-machine operator. In the latter capacity she labored till April 15, 1885. Her family history presents nothing of hereditary influences.

She began to menstruate at the age of fourteen years. No unusual disturbance became manifest in connection with the establishment of this function, nor did it at any time suffer any derangement till interrupted by pregnancy, at the age of twenty years. At full term she gave birth to a healthy male child, and made a good recovery.

Two years later, when near the end of another pregnancy, she received a blow on the abdomen from her husband, and was confined to bed for several days on account of it. In due time, however, a healthy female child was born after an easy labor. Her convalescence seems to have been somewhat protracted. As a sequel of this gestation, she suffered every month thereafter from dysmenorrhœa. In the intervals between these periodical attacks of suffering and malaise she enjoyed good health, and continued to do so till July, 1884, when after a fall on the pavement she suffered from contusion of the right hip. This, however, passed off in a few days, and left her in her usual health. I might here remark that she had separated from her husband, and during the two last years of her life cohabited clandestinely with another man.

About March 1st she became enciente, and six weeks afterward terminated her pregnancy by a provoked abortion. The consequent illness is not said to have been severe, for she rapidly retrieved her lost health and spirits, and in a very few days was enabled to participate in various active amusements. Toward the end of May she began to complain of some slight pain in the lower abdomen, and every now and then she would observe that it was increasing in severity. On June 27th she was completely prostrated by abdominal cramps, and obliged to remain in bed on account of her sufferings for four days. In a few days she was approximately well again (so far as the pain was concerned), and indulged in severe exertion with seeming impunity. About August 1st her menses, which hitherto had been regular, ceased, and appeared no more. This was her own statement, but I am forced to doubt the verity of it, by certain collateral evidence which goes to prove she suffered from metrotaxis up to a few days before her death. About two weeks after this, the abdominal pain, which had gradually become troublesome again, now suddenly assumed a different character, and much resembled that of her dysmenorrhœa. This led her to believe her menses were about to reappear, but in this she was deceived. About this time rectal and vesical tenesmus was superadded, while at the same time she began to suffer from constipation, restlessness and insomnia. For this condition she sought medical relief about September 1st, and learned from her physician that she was suffering from inflammation of the bowels.

On September 15th, about 8 A.M., when attempting to rise, she fell back, prostrated by the sudden aggravation of the abdominal pain. She compared this pain to that of a knife driven into her side. Flexion of the thighs seemed to relieve her somewhat, and hence she assumed a sitting posture, which she maintained for about ten minutes. Being forced to lie down because of a feeling of faintness, she tossed about, endeavoring to assume a decubitus that would afford any respite from the excruciating pain. At 11 A.M. she fainted, and remained syncopated about fifteen seconds, during which a well-marked convulsion was observed. Four times during the afternoon these evanescent fainting attacks recurred, but without convulsions.

About 1 A.M. I was called to the bedside. I found her lying in the left lateral position, with the shoulders depressed, and the knees drawn up, as if endeavoring to relax the abdominal wall. Her countenance, expressive of intense suffering, presented an astonishing pallor. The skin was cold and covered with clammy moisture. Her hands and feet were fast becoming numb. In this frigid state the abdomen was remarkably hot. It was greatly distended, and so painful that the slightest touch could hardly be tolerated. She complained of heat in the stomach and an insatiable thirst, and craved cold drinks. Every draught of whiskey-and-water induced vomiting. Her bowels were confined. The pulse was rapid and thready; the temperature in the mouth 93° F.; the respirations accelerated, shallow, and at intervals interrupted by a yawn or sigh. She was weak, somnolent, and unwilling to be disturbed. When spoken to, however, she was easily aroused, and answered questions in a tone of voice at first enforced by excitement, but almost instantly subdued by exhaustion. Having about finished her reply, she would relapse into her previous lethargic condition. There was no evidence of external hemorrhage. She said she felt pregnant six weeks, yet no external palpable evidence could be found to corroborate her statement, nor did she experience any of those subjective symptoms she was wont to have in connection with her former pregnancies. Vaginal examination, however, showed the os uteri to be patent, the cervical canal admitting index finger to the extent of the first phalanx; the cervix soft, displaced forward, and fixed behind os pubis. The extreme tenderness of the abdomen prevented all further physical exploration.

From the foregoing symptoms was deduced a diagnosis of abdominal hemorrhage with collapse. Heat was applied externally and whiskey administered. My hypodermic syringe not being available, suppositories of one-quarter grain of morphia were ordered. Immediately after the insertion of a single suppository, a tonic convulsion supervened and continued about half a minute. Then, with a precipitant movement of the body, she rolled on her back. She was now unconscious, and could not be aroused. The radial pulse had disappeared, the heart's action was inappreciable, the respirations rapidly became slower and fewer, and in two or three minutes death closed the scene.

At the autopsy, shortly after death, the abdominal incision made along the linea alba, down to the peritoneum, was bloodless. On opening the peritoneal cavity a huge mass of coagulated blood was exposed. The removal of this discovered a fœtus presenting at the abdominal aperture. The cord was still intact, and was traced to a cyst situated on the right side of the pelvic cavity. This was firmly adherent to the peritoneum of the right lateral and posterior walls of the pelvis, and on the left side to the rectum. The rest of the intestines,

matted together by clotted blood, were entirely free from any adhesion. A collection of serous fluid was found in the right flank. No other morbid changes were observed.

The fœtus was five inches long. The head, somewhat large, was well shaped. The cranium, soft as a bag of fluid, presented ossific plates on the parietal, frontal, and occipital protuberance. The eyelids were adherent; the male genitals quite distinct; and the nails well defined. This is obviously a description of a four months' fœtus. The cord, five and a half inches long, was attached to the left margin of the placenta.

The cyst was situated behind and to the right side of the uterus. It was adherent, on the right side, to the pelvic peritoneum as above stated; on the left, to the rectum, to the extent of four inches of its length and one-third of its circumference. The walls of the cyst varied in thickness from one to five lines. The rupture, nearly three inches long, took place, from before backward, along the attachment of the rectum. The placenta was situated on the anterior wall of the sac, and, at the time of rupture, was detached from its bed to the extent of one and a half inch.

The uterine walls were thickened. The cavity, measuring three and a half inches in length, was lined with a shaggy decidua, while the cervical portion was filled with a gelatinous mucous plug. The left tube was pervious. No corpus luteum was found in the left ovary. The right tube would not admit the smallest probe. The right ligament was not dissected.

From the relation of the parts involved, if a communication were to have been established between the fœtal sac and any of the hollow viscera, it would most probably have been with the rectum. Hence this case would have proved an exception to the rule observed by Tait, who says, "If on the right side it evacuates into the cæcum."

That the diagnosis of extra-uterine pregnancy is always difficult, and often impossible, the literature of the past affirms, and that of the present does not seem to contradict. Dr. Thomas, who has reported some thirty cases (the largest number recorded by any one man), after relating his experience in twenty-one cases,[1] drew the following diagnostic conclusions, which may be thus summarized: Symptoms of normal pregnancy accompanied by (1) irregular gushes of blood, ceasing and suddenly recurring without any assignable cause; (2) fixed grinding pain in one iliac fossa, and perhaps down the thigh on the same side; (3) paroxysms of severe pain, with constitutional symptoms, passing off in a short time, to recur in a few days with increased violence; (4) symptoms of abortion without the appearance of a fœtus; (5) expulsion of membranes without accompanying fœtus. Physical signs: (1) Increased size and displacement of uterus; (2) evidence of vacuity of uterine cavity; (3) presence of a cystic tumor, painful to touch, rather immovable, with obscure fluctuation, and sometimes ballottement. Dr. Goodell, following Thomas on the occasion, added,[2] "If after a long sterility a woman become pregnant, suspect extra-uterine fœtation;" and, "The forward displacement of the cervix and bulge in Douglas' pouch often mimic retroflexion of a gravid uterus;" and also, "The supposed uterine globe is smaller than at that time in normal pregnancy." As these symptoms have no particular reference to rupture, Parry adds[3] at this time: "A sudden accession of pain in one iliac fossa with metrorrhagia; a feeling as if something had torn inside of her; symptoms of shock accompanied by great weakness; convulsions and delirium, or perfectly clear intellect; and the abdomen becoming suddenly very severely painful, distended, and dull on percussion; and 'if metrorrhagia has not preceded the symptoms of rupture, it quickly follows them in almost all instances.'"

The above enumeration is unquestionably a faithful picture of a typical case. Thomas says,[1] however, "It is much easier in the lecture-room or in a written treatise to lay down distinctions in these cases than at the bedside." "In all cases of difficult diagnosis," says Matthews Duncan, "if you do not suspect a thing, you are almost certain not to find it."

As there is as yet no symptom known that can be considered peculiar to extra-uterine gestation, and as all the symptoms can do no more than arouse a suspicion of that condition, to be rendered positive or negative by physical signs, so even to suspect extra-uterine fœtation it is absolutely necessary to have suspicious symptoms. Of the five symptoms of Dr. Thomas three refer to the metrorrhagic discharges,[4] and are alone suspicious. The long period of sterility is said to be suspicious. In the foregoing enumeration there are, therefore, only four suspicious symptoms, and of these only one, the feigned sterility of nine years, was present in my case; but before any importance can be attached to this symptom as suspicious of erratic gestation, it must first be proven that the woman is pregnant. Since there was no positive evidence of pregnancy, even the previous sterility lost its value as a suspicious symptom. There was not in my case, *à priori*, a single symptom that could lead a medical attendant even to suspect the existence of extra-uterine pregnancy antecedent to an autopsical revelation.

Fränkel[5] will accept no symptom unless pregnancy has so far progressed that its existence can be proven beyond a doubt, and the uterus is empty.

Vulliet showed his honesty when he reported[6] the case that had been four months in his private hospital, and had been examined many, many times during that period, but was not diagnosed as one of extra-uterine pregnancy until the abdomen was opened. If, with plenty of time, every convenience and facility, Vulliet could not diagnose his case of tubovarian gestation, it becomes difficult to understand how in many of the recorded cases the vaunted diagnosis had been made *ante-mortem*, with such marvellous precision.

Parry, treating of rupture, asserts[4] that "the symptoms of this are well marked." The above symptoms, however, taken from his work, presuppose a diagnosis of the real condition, and consequently if there be no such presupposed knowledge, these well-marked symptoms are not in the least peculiar to rupture of an extra-uterine fœtal cyst. This becomes obvious when it is remembered that the fourth case in Tait's series,[8] operated upon at the time of rupture, was diagnosed by him as one of pyosalpinx. Paul Mundé has recorded a case[9] of tubal pregnancy, the diagnosis of which, made by him, to "make assurance doubly sure," was corroborated by Emmet, and in which, after the application of twenty-four volts of galvanism, all the above-marked symptoms supervened, the weakness being in a small degree. So positive was he that rupture had taken place, that he was waiting only for the patient to rally to perform laparotomy. Though the requisite diagnosis had been made before their onset, time proved those marked symptoms to be due to nothing more than purely nervous shock.

Speaking of this difficulty in diagnosis at the time of rupture, Tait[7] says: "As I have now completely adopted the principle of always opening the abdomen when I find a patient in danger with abdominal symptoms, this barrier no longer exists."

From a therapeutical standpoint, the great desideratum in diagnosis is undoubtedly to establish, if possible, the existence or absence of abdominal hemorrhage. The afore-cited case of Mundé shows the almost insuperable difficulty. Treating of laparotomy after rupture, Lusk[10] quotes Kiwisch, in recommending the operation, as hav-

[1] Transactions of American Gynecological Society, vol. vii. [2] Ibid.
[3] Extra-uterine Pregnancy, p. 129.

[1] Diseases of Women.
[2] Sammlung klinischer Vorträge, No. 217. Leipsig, 1882.
[3] Archiv für Gynäkologie, xxxii. p. 427. Berlin. [4] Op. cit.
[5] British Medical Journal, vol. i., p. 1250.
[6] The New York Medical Record, vol. xxvi., p. 337. [7] Loc. cit.
[8] Science and Art of Midwifery, p. 333. 1885.

ing advised to make a small puncture through the peritoneum, and to introduce a pipette into the abdominal cavity, "in order to be sure that internal hemorrhage had really taken place." But this pipette exploration would have been of doubtful expedience in Clark's[1] case, where it is reported that the liquor amnii was the first thing to issue from the abdominal opening at the autopsy.

It was observed that a diagnosis of abdominal hemorrhage had been presumed in my case. It was founded on the following evidences: The symptoms of shock, accompanied by great weakness; the sudden onset of severe pain in, and distention of, the abdomen, and that remarkable abdominal heat, both subjective and objective, presenting so striking a contrast to that of the rest of the body.

This symptomatic abdominal heat does not appear to have hitherto attracted any attention in the cases already recorded; yet if it be remembered that there is beneath the abdominal wall a clot of warm blood varying in bulk from one or two quarts to as many gallons,[2] it becomes an easy matter to appreciate the importance of this symptom in its bearing upon the diagnosis. Indeed, this symptom alone, *cæteris paribus*, would seem to be unequivocal in differentiating abdominal hemorrhage from purely nervous shock.

The etiology of this case is apparently fourfold: (1) The fact that she was a hard-working woman; (2) that she was practically one of those "widows indulging in hymeneal pleasures, but who pretended to be chaste;" (3) the injury received from her husband nine years ago, followed by dysmenorrhœa; and (4) the abortion of last spring. The fourth eliminates the first and second, but whether the old injury or the recent abortion was the real predisposing cause seems impossible to determine.

In the history of this pregnancy it was observed that on June 27th, exactly six weeks after conception, she was prostrated by abdominal cramps, and obliged to remain in bed for three or four days. This attack was, in all probability, an early rupture, from which the patient recovered; the rupture having taken place, as Tait maintains in such cases, in that one-fourth of the tube which is in relation with the cavity of the broad ligament.

The successes of Lawson Tait, who has performed laparotomy at time of rupture in ten cases,[3] with nine recoveries, demonstrates the proper course to be pursued under the circumstances. To operate when the patient is *in articulo mortis* is the most serious question of all; yet the only case in this country recorded[4] as a success (that of Briddon) was operated upon under such circumstances; and Tait says, "Operate, if any chance of success."

Dr. R. B. Maury, however, advises[5] that "Our efforts at the time of rupture should be directed solely to rallying the patient and bringing about reaction."

All the successful operations at the time of rupture, including those of Veit, were preceded by due deliberation; but when there is no time for such deliberation the only justifiable course would seem to be to rally the patient, with the hope of holding in abeyance the almost inevitably fatal issue, until the circumstances will have sanctioned the propriety of an operation.

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A Change of Name.—The *Aerztliches Intelligenzblatt*, of Munich, after an existence of thirty-two years, has suddenly expanded into a large and handsome weekly journal, and with its growth has taken the name of the *Münchener Medicinische Wochenschrift*. It presents a very handsome appearance in its new dress, and with original articles by Maas, von Ziemssen, Riegel, and others, it ought to satisfy the most exacting of its readers. We congratulate our esteemed contemporary on its prosperity.

[1] Boston Medical and Surgical Journal, xiii., p. 299.
[2] Hunt, quoted by Parry, op. cit., p. 57.
[3] British Medical Journal, 1885, vol. i., pp. 542, 778.
[4] Annals of Anatomy and Surgery, viii., p. 267. Brooklyn, 1883.
[5] Transactions of the American Gynecological Society, vol. ix., p. 194.

REMOVAL OF THE PLACENTA AFTER ABORTION.

By W. T. CHEATHAM, M.D.,
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The management of abortions attended with retained secundines has been much and ably discussed of late by many of the most eminent and experienced members of the profession, the preponderance of expression being decidedly to favor the immediate removal of the uterine contents when the ovum has been expelled, the placenta and membranes remaining behind. I will therefore substantially iterate my impressions on this subject as published in the October number of the *North Carolina Medical Journal*, 1884, advocating the immediate removal of the placenta.

The danger attending abortions is to be estimated by many circumstances; first, the period of gestation arrived at, also the previous state of the patient's health; again, by the quantity and rapidity of the hemorrhage, and by the difficulty of checking it; and again by the length of time that the patient has been suffering hemorrhage; and again by the degree of expulsive action as manifested by pain. The principal, if not only, source of peril, is the loss of blood; to that, therefore, our attention should be chiefly directed.

The earlier the period of gestation, the more vigorous the patient's health, the less the amount of hemorrhage, and the less the difficulty of subduing it, the less will be her peril. The state of the uterine action must not be underestimated in forming our judgment; for the more rapidly and vigorously the uterus contracts on its contents, the more likely will it be to expel the ovum speedily, and entirely to empty its own cavity, to close its open vessels, and to put an end to an immediate flow of blood. It has been promulgated as a principle that abortions occurring in the early periods of gestation bring with them but little danger. This proposition is by no means correct; my experience is that it is not without many exceptions. Many women I have seen suffering from the most frightful symptoms of hemorrhage, under abortions of very early periods.

I well remember, in the first year of my professional life, meeting with an abortion occurring about the seventh week, of a most perilous character, and I do not remember ever since having seen a woman in so great a peril as she appeared to be recover. Not only was the bed on which she lay thoroughly saturated with blood, but a quantity of the vital fluid had poured through and lay in a pool upon the floor. She was perfectly senseless, blanched, and cold, and in a state of constant jactitation, with which occasional convulsive phenomena alternated. The respiration and circulation were so imperfect, at one time, we thought the vital spark had fled. This woman made a slow recovery, and for many months her health was quite precarious.

The first question to be considered when called to a case of threatened abortion, is, can the expulsion of the uterine contents be prevented? The answer to this usually depends on the dilatation of the os, and the amount of hemorrhage. If the hemorrhage has been active, and the amount of blood lost considerable, the probability is that the utero-placental connections are so separated that abortion must ensue. Should a vaginal examination show the os to be well dilated, and the membranes bulging, matters have gone so far that we cannot reasonably expect to prevent expulsion of the uterine contents; however, more frequently, on our arrival at the bedside, we find that the ovum has been expelled, and the secundines retained. The os being sufficiently dilated to admit the passage of the embryo, it is safe to conclude that it will admit the entrance of the fingers, and is in a condition to admit of manual or instrumental interference. It is admitted by all who have given this subject consideration that when the ovum is expelled, and the placenta remains behind, we may expect the danger from hemor-

rhage to continue until the placenta and membranes are expelled.

Under these circumstances, and leaving out of consideration the danger of septic difficulties likely to arise from a retained and decomposing placental mass, it is incumbent, as a means of safety to the patient, that we empty the uterus of its contents as speedily as possible, and avoid immediate danger from hemorrhage.

It is not necessary for our purpose that we enter into a discussion of the management of abortions, as recommended in the various works on obstetrics, and usually practised, but may confine our remarks to the immediate removal of the uterine contents when abortion cannot be prevented. We are told to employ the fingers as a means of extraction, to place one hand above the pubes, press the uterus down and make steady the fundus, while with the other we pass the fingers into the uterine cavity and scrape out the offending mass, thus terminating the danger. In patients with thin, pliant abdominal walls, we will most likely succeed in removing the secundines by this method, but this finger-delivery not infrequently is exceedingly difficult of accomplishment. It is not an infrequent occurrence to meet with cases in which the examining finger can with difficulty be brought in contact with the more or less detached placental mass within the uterine cavity, this member being too short to explore the cavity to its fundus, scrape off, and extract the placenta. In stout women, of a nervous, sensitive, unmanageable disposition, with a deep vagina, and thick abdominal walls in connection with a firmly-contracted uterus, rendering the cavity too narrow to permit flexion of the fingers and manipulation of the retained products after they have been forced through the internal os, we shall be thwarted in our efforts and must of necessity look to other and more efficient means to accomplish the desired end. When the placenta and membranes cannot be removed with the fingers, various instruments have been devised for seizing them and bringing them out. Hodges' modification of the bullet-forceps is a failure, for the reason that you cannot maintain your hold on the placenta after you have seized it with the instrument. The same objection does not obtain to Dewees' hook, but this is a sharp instrument, and incalculable damage may be inflicted even when used with skill and caution.

The Duck-bill, Mundé's, Loomis', and other placental forceps of like construction are safe and excellent instruments, but are not easy of application, it being necessary in many cases to use the speculum in order to apply them with the proper precision necessary to a successful extraction of the placenta.

I conceive that most practitioners of an intelligent experience, who are not too faint-hearted to act in an emergency, or are not converts to the so-called conservative doctrine and practice of tamponing, washing, and waiting on nature to accomplish the repulsion and delivery of the secundines unaided, have felt the necessity for an instrument that would obviate the delay, and avoid difficulties often incident to the use of the speculum. The immediate surroundings, and, it may be, the feeble and exhausted condition of the woman, would make it not impracticable, but difficult, and perhaps hazardous, to carry this plan into execution. The foregoing, I apprehend, will not apply so aptly and with the same force and emphasis to our city brethren, who enjoy so many facilities and advantages not practically within the domain of the country practitioners, to whom they apply with peculiar aptitude. The city doctor can give his patient his continuous personal attention, if required. Should his numerous engagements intervene, he has professional friends at hand who will promptly supply his place. Therefore, he can more consistently wait, and trust to the conservative management, than the busy country practitioner, whose patients are scattered over a wide scope of territory, many miles apart, and far from his place of residence, and the demand for his services being too great, and his time too precious, to permit a prolonged visit. To tampon, direct the usual remedies for hemorrhage, and leave the subsequent management, during his unavoidable absence, to timid friends, or, worse still, to the ever-present and officious country midwife, would be to jeopardize the immediate safety and future health of the woman, to the detriment of his good reputation. Having for many years exercised the functions of the country doctor, I have often been put severely to the test by difficulties arising during attendance on abortions. On one occasion, in a critical case occurring at the third month, with some constitutional symptoms, the embryo having been expelled fourteen days, I was reduced to the extremity of extracting the retained putrid and decomposing secundines with the handle of a common pewter spoon, it being the only available instrument. Many are the devices of our country brethren when pressed by an emergency. One tells me he has used a loop of common wire as an extractor; another frequently resorts to the sharp curette as an aid to the fingers, with fair success, especially in cases occurring at an early period of pregnancy. In the February, 1883, number of *The American Journal of Obstetrics*, Dr. Mundé has published a description of a placental curette, a most excellent instrument for detaching and scraping out a firmly-adherent or morbidly-attached placenta. It is peculiarly adapted to difficult cases occurring about the second month. Having for many years been convinced of the unsatisfactory teachings and practice usually adopted, as too compromising, in February, 1880, I devised an instrument which has proved satisfactory in my hands, having used it with uniform success, never failing to turn out the uterine contents with ease, safety, and expedition. It is ten inches long, with both ends fenestrated and scoop-shaped, representing two instruments combined in one (a large and small size), either being used, when required, for extracting the uterine

contents. Its edges are oval and smooth, preventing the possibility of danger by cutting, and it is delicately constructed, yet sufficiently strong for practical purposes. When it is apparent that abortion cannot be prevented, and the hemorrhage is severe, with the os sufficiently dilated to admit the index-finger, the placental scoop can be introduced and the uterine contents quickly turned out, putting the patient beyond danger from hemorrhage and septic difficulties likely to supervene when we have a retained and decomposing mass of secundines.

In order to use the scoop intelligently and successfully, the patient should be placed upon her back, with her extremities drawn up and supported by an assistant, or, if preferred, put upon her side, with her hips brought close to the edge of the bed, the extremities flexed and held apart by assistants. With the index-finger in the os as a guide, the scoop should be introduced with its convexity pointing to the posterior intra-uterine surface and passed well up to the fundus. With the left hand above the pubes to steady the uterus, the instrument with the other should be made to sweep the uterine cavity, making its entire circuit two or three times, the edge impinging on the uterine parietes, breaking asunder all placental connections, and then withdrawn with its scooped surface presenting posteriorly, the point of the instrument pressing the uterine surface, bringing with it the product.

Occasionally, after having detached the placental mass, on the withdrawal of the scoop it will be found loose in the os, nothing remaining but to take it away with the fingers, or, if necessary, introduce the instrument again and fish it out. The small-size scoop is of practical utility in abortions occurring from the sixth week to the end of the third month, while the large size meets the demand in those cases occurring from the third to the fifth month, inclusive.

Having in my mind several cases in which the scoop

proved a success after my fingers had failed me, I will give two or three from memory, as succinctly as possible.

CASE I.—A lady, while in town shopping, felt a sudden rush of blood from her genitals, which for the moment excited alarm. The cessation being almost as sudden as the attack, and experiencing no inconvenience, she rode home five miles in a buggy without exciting a return of the hemorrhage. For two months she had an occasional hemorrhagic discharge, the quantity not being sufficient to excite apprehension or cause inconvenience. She was again suddenly seized with an active flow, accompanied by severe bearing-down pains. When I saw her, two fingers could with difficulty be forced through the cervix into the uterine cavity, meeting with an oblong oval body, which gave to the touch a semi-solid elastic feel. Not being able to accomplish its removal with the fingers, the small-size scoop was employed, a separation and extraction effected, the product proving to be an encysted placenta, the embryo having been expelled two months previously.

CASE II.—Embryo expelled at the seventh week, placenta retained with active hemorrhage. Being unable to pass the fingers sufficiently far to detach and extract the offending product, the small-size scoop was employed with easy success.

CASE III.—Fifth month, with fœtus expelled three days previously. Physician in attendance had succeeded in getting away about one-half of the placenta. The os was sufficiently dilated to admit two fingers, but the firmly-contracted condition of the uterus prevented a separation and extraction of the retained portion. The scoop was employed, the attachments broken up, and the remainder of an offensive and decomposing placenta removed.

CASE IV.—Gestation nearing fifth month. Embryo expelled thirty-six hours previously. No hemorrhage since expulsion of embryo. Could pass the fingers into the uterus, but owing to its firm contraction, and narrow condition of its cavity, they were unavailable as a means of delivery. The large-size scoop was employed, the adhesions broken up, and the placenta brought out.

All of the above cases made safe and rapid recoveries. I could make reference to others, but will refrain, as I have already extended my remarks beyond the limit first intended.

A NEW FORM OF CONTINUOUS FLOW SYRINGE.—Dr. Wm. R. Leonard, of New York, has devised a syringe with a single bulb, similar in appearance to the ordinary Davidson apparatus, by which he claims a continuous flow of the injected fluid may be obtained. The modification consists in a longitudinally corrugated outlet-tube which becomes dilated by the pressure of the fluid forced from the bulb, and then by its elastic force insures the steady flow of the fluid during the relaxation of the bulb. The weight attached to the extremity of the receiving-tube is covered with rubber, so as to prevent the clinking in the vessel which is so disagreeable to some nervous individuals. The nozzles are made of hard rubber and are secured by simply pushing them into a soft rubber socket, no screw attachment being provided.

UNALTERABLE COCAINE SOLUTIONS.—Solutions of co caine, as those of morphine, atropine, and some other alkaloids, when made with simple distilled water, rapidly become spoiled through the growth of a fungus. Such impure solutions may cause injury to the tissues when injected, or may excite inflammation of the conjunctiva when employed in ophthalmic practice. In order to obviate this Dr. George Abbott recommends a solution in camphor water. He has kept solutions of atropine to which camphor (one grain to the ounce) was added for over a year, and has not seen any micro-organisms develop. Camphor is especially suited for preserving solutions intended for use in the eye.

Clinical Department.

TRACHEOTOMY IN A CHILD THIRTEEN MONTHS OLD, FOR THE REMOVAL OF A FOREIGN BODY.

DR. E. B. WARD, of Greensboro, Ala., writes: "On November 22d, early in the morning, a child thirteen months old was brought to my office, suffering from considerable difficulty of respiration. The parents had walked ten miles the night before, bringing the child in their arms. The evening before the child was playing with some peanuts and accidentally got one into the windpipe. She was discovered to be strangled and was jerked up and struck on the back, and various other means were resorted to to relieve the little sufferer, without avail. When I saw the child I found it evidently suffering from some obstruction in the air-passages, and on an examination into the history of the case a diagnosis of a foreign body in the trachea was made. This was confirmed by my father, Dr. T. R. Ward, who saw the case with me. The respirations were labored, harsh and rattling, the child's face was somewhat swollen and cyanosed, and on examination coarse crepitant râles were heard over the whole chest. It was plain that the only relief was from an operation, but the parents at first objected to this, so we decided to wait and requested a consultation. It was three o'clock in the afternoon when the consultation was held, Drs. Peterson, Young, and Inge being present. At this time the child's symptoms were growing rapidly worse, respiration was very difficult, and suffocation seemed imminent. Tracheotomy was plainly indicated as a *dernier ressort*. The patient was anæsthetized and a free opening was made in the trachea. The child's neck was short and deeply covered with adipose. Notwithstanding the engorgement of the lungs and the partial cyanosed condition, chloroform was well borne and did not seem to aggravate the symptoms in the least, but enabled me to perform the operation and make the necessary dissection with ease and precision. The thyroid veins were plainly visible and were held out of the way while the fascia was divided between them, thus exposing the trachea to view. The incision was about one inch in length in the integument, and about one-third of an inch in the trachea. There was not much loss of blood. Just after the incision in the trachea was made a gush of air came through, and we expected to see the foreign body ejected through the opening. While attempting to insert a tracheotomy tube the foreign body was dislodged, but instead of escaping passed by and down lower in the trachea below the wound and became fixed, when respiration instantly ceased, and to all appearances the child was dead. But artificial respiration was diligently resorted to, and I can fully attest the value of this means in this case. A female catheter was introduced in the trachea, and air was blown into the lungs while pressure on the walls of the chest was made to simulate expiration. After awhile our efforts were crowned with success, and after a period of about five minutes had elapsed since the child last breathed, it gave a gasp and the lungs slowly began to work again. The foreign body now was again dislodged by an effort of the child to cough, and in passing the opening of the trachea a half of a parched peanut with the skin attached was seized with forceps and extracted. The respiration, which was hurried previously, gradually became slower and fuller, the child rallied, took nourishment, and rested well through the night. The tube was left *in situ*, as was thought best, and instruction carefully given the nurse to clear it when it filled up. But through neglect, after all the precautions, it was allowed to fill up with mucus, and the child died from suffocation before I could reach it. Thus was wrecked upon an unseen rock a life which science had successfully guided over the breakers, and the art of surgery was robbed of its just prize."

CATIVÍ.

UNDER this title, Dr. Luis Lazo Amàga, of Guatemala describes an affection of the skin, occurring in Honduras, which is characterized by spots of different colors disseminated over the entire body but occurring in closer aggregations in certain localities. He writes: "There are two kinds of *cativí:* one which is accompanied by pruritus and abundant desquamation, and another which wants these qualities, although sometimes we observe a slight pruritus without desquamation.

"The sick present no other symptoms than those enumerated. They exercise their functions just as in a state of health, and the skin, apart from its discoloration, and its scurfy desquamation presents no signs of inflammation.

"The color of the spots varies much, depending in a great part upon the color of the skin, since the whites have many red, black, and blue spots, while the negroes have white and blue ones commonly. At times but a single color is observed, but usually there are several, and from the appearance thus caused those suffering from this affection are called by the natives *pintados* (painted) or *manchados* (spotted).

"The *cativí* is a very contagious disease, as I had occation to observe in an individual who apparently acquired it from having bathed in a river in company with a *manchados.* On an estate of mine, situated in the Department of Olancho, in the Republic of Honduras, the laborers who are not *manchados* avoid making use of the agricultural implements which the *manchados* have handled, because they assured me that the disease was transmitted in this manner.

"What I was able to notice in my sojourn in that place was that the *scaly cativí* is more easily transmitted than the *smooth* kind, and that the first appears in children almost from birth (indeed it is said to be sometimes congenital), while the second does not develop itself before seven years.

"The disease may be hereditary, particularly the *scaly* kind, although some children of the *manchados* do not have it; and I have seen families in which the father and some of the children were suffering from it, while the mother and the others were no

"I am led to believe, from repeated microscopical examinations, that the scaly form of *cativí* is of parasitic origin, but the smooth variety shows nothing to indicate the presence of a fungus or of any low form of animal life such as is found, for example, in scabies. The cause of the disease is unknown; some attribute its origin to the action of the water or to the bites of insects, but my own observations lead me to reject these theories of the etiology of the *cativí.* It is a somewhat curious fact that, in spite of the repugnant aspect of the disease, its subjects do not appear to suffer mentally from their affliction, nor do they shun intercourse with healthy persons.

"No curative method, based upon observation, can be established, because the *manchados* never seek the advice of a physician. The only case of medical cure which I have seen was that of the man, before mentioned, who acquired his disease while bathing, and to whom remedies were given as soon as the first spot appeared. Only five spots were developed, and thanks to an external mercurial treatment, continued for some time, they disappeared, leaving only a slight discoloration of the skin at the points where they were situated.

"I believe that the disease is always curable, and this view is also held by the leading physician in Honduras, Dr. Gamero, whom I once asked if the cativí could be cured. 'When the sick wish they can heal themselves,' he answered, 'but generally they do not wish it; if men, because it exempts them from the military service; if women, because they do not need to.'"

THE BEST SPECIALTY IN MEDICINE is common sense, founded on experience in general practice.

Progress of Medical Science.

COFFEE AS A CAUSE OF PRURITUS—M. Brown-Séquard states (*Gazette des Hôpitaux*, November 3, 1885) that he has several times seen a most intense pruritus excited by the use of coffee. He relates the case of a lady who suffered from pruritus vulvæ every time that she drank a cup of coffee, the trouble disappearing when she discontinued the beverage. A man, sixty years old, who for forty years had lived in a laboratory filled with the odors from dead bodies of animals, living on bread and black coffee in order to save money to buy animals for experimental purposes, was seized with a most intense pruritus of the anus. The trouble was relieved only after he had given up coffee, and returned each time that he resumed its use.

PECULIAR DEFORMITY OF THE FINGER.—At a meeting of the Academy of Medicine of Paris (*Gazette des Hôpitaux*, November 5, 1885) M. Jules Guérin presented a woman and her three children, each of whom had an angular and lateral deformity of the first phalanx of the index fingers of both hands. The reporter said that the origin of this deformity was to him inexplicable; there was no muscular lesion, no rachitis, and no history of traumatism, and the only possible cause was to be referred to maternal impressions. The mother stated that she had had her deformity on her mind during the entire period of each pregnancy, fearing that her offspring should be similarly affected, and in each instance her fears were realized. M. Guérin proposed to divide the lateral ligaments in order to effect a reposition of the deflected phalanx.

HEPATIC ABSCESS IN TYPHOID FEVER.—Abscess of the liver is not uncommon in dysenteric ulceration of the intestines, but is extremely rare after ulcers occurring in typhoid fever. Dr. Bokai relates the case of a child, ten years old, who was admitted to hospital after having been ill for several weeks with typhoid fever. The only physical signs discoverable were bronchial râles and the evidences of pulmonary engorgement. There was no enlargement of the liver. The course of the fever was not modified by quinine, and after a short time there was a sudden aggravation of the disease, vomiting of greenish matters occurred, and the child died. At the autopsy a large abscess was found in the right lobe of the liver, the left lobe was filled with a number of small abscesses, and a rupture had occurred in the peritoneal cavity, which contained nearly thirty ounces of pus. Peyer's patches were enlarged and presented the characteristic ulcerations of typhoid fever.—*Rivista Clinica e Terapeutica*, December, 1885.

TREATMENT OF DISEASES OF THE STOMACH.—Dr. Talma employs with good effect hydrochloric acid in gastric affections, giving it in a warm draught containing 1 part of acid to 750 of water. The best results are obtained when this solution is sipped slowly after each meal. It prevents the decomposition of the contents of the stomach and by its antiseptic action exerts a favorable influence upon the diseased walls of the organ. It is necessary, of course, to regulate the diet most carefully, avoiding all fatty substances in ulcer or cancer of the stomach.—*Rivista Clinica e Terapeutica*, December, 1885.

INTRA-UTERINE ERYSIPELAS.—Dr. C. H. Stratz relates a case of this nature. A young woman, pregnant for the first time, suffered from several attacks of erysipelas, during the last of which labor began. The child, which was alive and of normal weight, presented the epidermis of the whole body, especially about the buttocks, so loose that it could be pulled off in strips. The mother had facial erysipelas, originating in a crack at the corner of the mouth, and the genitals and other parts of the body were entirely free from the disease.

VOLUNTARY ACCELERATION OF THE HEART'S ACTION.—Many cases are reported in medical literature of individuals who possess the power to increase the rapidity of the cardiac pulsations by a simple effort of the will. Dr. Tarchanoff had an opportunity of studying this phenomenon in a student who was able, without any apparent effort, to raise the pulse-beats from 70 to 105 per minute. He concluded that this was accomplished through excitation of the accelerator nerves, rather than by depression of the inhibitory centre. In observations upon a number of similar cases he found that the power of voluntary acceleration of the heart was possessed by individuals who had a special muscular expertness. They were able to move the external ear muscles and the platysma-myoid, or could flex the terminal phalanges of the fingers, the other articulations being held extended. He says that this faculty of voluntary control over the heart is less rare than is generally supposed.—*Gazzetta degli Ospitali*, November 8, 1885.

ANTIPYRINE IN EPISTAXIS.—Dr. Lavrand reports some cases which serve to demonstrate the powerful hæmostatic action of antipyrine. It is certain and prompt in its effects, he says, and is much superior to perchloride of iron, as it is colorless and does not coagulate the tissues like the latter substance. It is used in aqueous solution, of the strength of 1 to 30, applied on lint and inserted as far as possible into the nares. The nostril is then compressed with the fingers so that the tampon soaked in the hæmostatic is in contact with a large extent of the mucous surface. By means of several applications thus made, M. Lavrand succeeded in arresting epistaxis which had persisted in spite of plugging of the anterior and posterior nares.—*Journal de Médecine et de Chirurgie Pratiques*, November, 1885.

MEASUREMENT OF THE FŒTAL FEET DURING PARTURITION.—Dr. Gonner states that there exists an almost constant proportion between the size of the feet and of the head in the fœtus, and that it is, therefore, possible in breech presentations to estimate the difficulties which will be presented by the passage of the head. From a large number of observations he concludes that in general a foot measuring three inches in length will correspond to eight and one-half pounds in weight of the child, and if a foot is found of greater size the child will be found to exceed the average weight at term.—*Journal de Médecine et de Chirurgie Pratiques*, November, 1885.

HÆMORRHAGIA NEURALGICA.—Under this name, Dr. Englisch, of Vienna, has described a peculiar affection of the lower extremities, accompanied by neuralgia, hemorrhage, and permanent wasting of the limb, five cases of which have come under his notice (*London Medical Record*). These patients, previously in good health and in comparatively comfortable circumstances, were suddenly, and without any precursory symptoms, seized with severe neuralgic pain in the course of the sciatic nerve. After continuing several days, it was succeeded by rigors and high fever, followed by sweats and evidence of considerable depression, and passing into a continued fever lasting several weeks, and exhibiting maxima of 100° F. to 105° F. On the third or fourth day from the commencement of the sciatic pain the limbs began to swell, a soft elastic mass extending from the ham to the hip, and gradually increasing in width, especially above, but not obliterating the form of the muscles, which stood out as if distended. A bloody infiltration next spread over the whole surface of the limb, and the veins appeared as pale brown stripes, such as are sometimes seen in septicæmia. The entire skin changed its color to that caused by deep sugillation. The connective tissue now became deeply infiltrated, and the bellies of the muscles could no longer be defined, the whole limb having been converted into a tense mass, sensitive to touch and quite stiff. The swelling was always greater on the posterior aspect of the limb, which might be flexed in consequence. The hollows of the ham, and on each side of the tendo Achillis, were obliterated. The feet were œdematous, rarely extravasated, and there might be effusion into the knee-joints, though not into the ankle. Both extremities might be affected, but one always more so than the other. From the appearance of the skin, tense, shining, and often red, these cases are usually admitted into the surgical wards under the description of cellulitis or phlegmon. They seldom proceed, however, to suppuration or breach of surface, the pain being due rather to the tension and the previous neuralgia. With the subsidence of the fever, the processes of repair or retrogression commence. These consist mainly in a shrinking of all the soft parts, most conspicuous in the muscles; their rounded form is lost, and the calf acquires an ape-like appearance. The skin shrinks at the same time, so that the tension remains almost unaltered. In extreme cases nothing is left but a mass of rigid connective tissue, in which the bones appear as if imbedded. These changes are most marked in the neighborhood of the ankle, which is completely ankylosed. In one of the cases which Dr. Englisch had an opportunity of examining, the skin was thin, tough, parchment-like, and so firmly adherent to the subjacent connective tissue as to be dissected off with great difficulty. The fasciæ appeared no longer as separate structures, but were inseparably blended with the surrounding tissue. The veins were thickened, and imbedded in the subcutaneous connective tissue. The muscles of the calf appeared as strands of connective tissue, but the tendons could for the most part be liberated from their sheaths. The proper substance of the muscles had disappeared, the sarcolemma alone remaining, with only a few disks here and there, and numerous oil-globules bore witness to the degeneration. The blood-vessels, thickened, and their lumen reduced or even impervious, were immovably imbedded in a mass of fibrous tissue. The capsules of the knee-joint and of the ankle contained no excess of fluid, but were thickened so as to impair the mobility of the joints. The nerves were not visibly altered, but were imbedded, like the vessels, in a mass of connective tissue. The ends of the bones were normal, and the muscles had undergone little alteration, although paralyzed. Beyond evidence of tubercular disease, the other organs were normal. In a second case, which came under observation two years after the commencement of the disease, the ankle was rigidly fixed at a right angle, passive movement being possible only to a very slight extent, and causing intense pain. Movement in the knee was less affected. The rotundity of the calf was quite lost, and the patient walked with great difficulty, and as if on a wooden leg. The pathology of this disease is very obscure. One might be inclined to look on these cases as severe forms of scorbutus; but in none of them were the previous circumstances of the patients such as were likely to induce scurvy, and in one only did the prodromal symptoms suggest such an origin. The intense sciatic pain was a prominent feature. Rigors, fever, etc., are met with only in severe and acute cases of scurvy; but in such extravasation of blood, sponginess of the gums, and lesions of the lungs and intestinal canal, are never absent; whereas, in these patients there were no petechiæ, and the gums, lungs, and bowels were healthy. So were the kidneys in four cases; in one only was there transient hæmoglobinuria. In their character, too, the extravasations differ from those of scurvy; they never appear in the cutis itself, but in the subjacent connective tissue and the muscle-substance of the lower extremities only. The effusion, again, is not of normal blood, but rather such as is seen in septicæmia, and after injections of septic and foul matters into the veins. It follows closely the course of the vessels as brown streaks on the surface of the limb. The changes in the appearance of the skin resemble those which accompany deep extravasation; but the effusion is here, as well as in the infiltration of the tissues, a bloody serum, which accounts for

the absence of any more or less clearly defined petechiæ. The changes in the blood itself are a slight diminution in the number of the white cells, and a marked reduction in that of the red discoid corpuscles, which are replaced by spherical and diverse-shaped red cells, in part nucleated, with an astonishing number of the so-called microcytes, or cells resulting from the division of the former. These changes correspond to those which are observed in osteomyelitis, and would indicate the origin of the disease in a grave alteration of the character and composition of the blood. The consequences and remoter effects, especially the atrophy of the muscular tissue, deserve special study. So soon as the absorption of the infiltration sets in, the muscle-substance begins to waste, and the collective structures of the limb are gradually but uninterruptedly transformed into a connective tissue like that of cicatrices. In several cases this transformation is complete; but even in those in which it is not so, and some muscular power is retained, the wasting of the limb persists many years. The disease seems not to be without its influence on the general health In one of Dr. Englisch's cases there were already symptoms of pulmonary tuberculosis, but this afterward advanced so rapidly that the patient died within two years. A second, though her lungs were quite sound at the time, and there was no history of hereditary tendency, speedily succumbed to tubercle of the lungs and genital organs. A third, left helpless by the atrophy of the limbs, sank not long afterward in like manner. Such being the rapid course of the disease, the treatment must be energetic. The persistent application of cold seems indicated, with a view to check further hemorrhage so long as pain continues. When this has abated, the absorption of the exudation must be promoted by stimulating poultices; later by warm fomentations, resolvents in the form of ointments, massage, etc. The early employment of electricity is to be specially recommended, to maintain the functional activity of such muscle-tissue as remains, and endeavors should be made to reduce the callosity and to restore movement to the joints by means of warm baths, etc. The further treatment must be conducted on general principles.

Hæmoptysis in Syphilis.—Dr. Reyes records some cases of hæmoptysis during the second stage of syphilis, in patients treated by the green iodide of mercury. In one case the hæmoptysis disappeared when the iodide was stopped, and recurred each time this drug was recommenced. Dr. Reyes suggests that in some persons this drug produces a fatty degeneration of the capillaries of the respiratory passages, thus giving rise to rupture and hemorrhage.

The Diaphoretic Treatment of Nephritis.—Following the suggestion of Professor Manassein, Dr. Hess ("St. Petersburg Inaugural Dissertation," 1885) made comparative observations on the effects of the treatment of nephritis by wet packings, hot baths with subsequent wrappings in woollen blankets, and hot-air baths. The experiments were carried out at a hospital in St. Petersburg on six patients, two of whom suffered from chronic interstitial nephritis, two from chronic parenchymatous nephritis, one from acute parenchymatous nephritis, and the last presented an exacerbation of chronic parenchymatous inflammation of the kidneys. The number of observations was sixty (fifteen wet-packs, twenty-four hot-water baths, and twenty-four hot-air baths), each of the patients being alternately subjected to each of the diaphoretic procedures. The author arrived at the following results: 1. The least rise in temperature of the body is produced by wet-packings, the temperature of water used being 45° to 50° F., the duration of packing an hour; the greatest by hot-water baths, at 72° to 80° F., of twenty to thirty minutes' duration; hot-air baths, at 90° to 130° F., of twenty to thirty minutes' duration, stand midway between the two methods. 2. While the temperature falls already in twenty minutes after the packing, it remains elevated even an hour after a hot-air or hot-water bath. 3. After hot-water baths the temperature returns to its normal level more slowly than after hot-air baths. 4. Under the influence of wet-packing the pulse becomes slower, the retardation remaining considerable even twenty minutes after the pack; on the contrary, it is considerably quickened from hot-water and hot-air baths. The increase in its frequency, on the average, is greater in the case of air-baths than in that of water-baths; but in the former the pulse returns to the standard more rapidly than in the latter. In both cases it remains still quickened even an hour after the bath. 5. Under the influence of wet-packing, respiration is quickened, but very moderately. It becomes far more frequent after hot-water and air-baths, especially after the former. It returns to the normal most rapidly after hot-water baths. 6. The least powerful sudorific effects are produced by wet-packings; the most powerful by hot-water baths, with subsequent wrapping in woollen blankets. Hot-air baths occupy a middle stand between the two. 7. In spite of the fact that hot-water and hot-air baths are accompanied by fairly strong symptoms of excitement, while wet-packings, on the contrary, produce a soothing effect on the nervous system, the patients most readily subject themselves to hot-water baths, but not to wet-packings; a circumstance which must be ascribed to a stronger diaphoretic action of the said baths, and to an improved subjective feeling of the patients after hot-water bath.

Periproctitis Simulating Typhoid Fever. Professor Lücke (*Deutsche Medicinal-Zeitung*) relates the case of a strong and healthy man who was struck on the abdomen with a pole, but without receiving any apparent injury. Two weeks later he was seized with typhoid symptoms, high fever, and diarrhœa. These were followed by tenesmus, bloody and then purulent discharges, a gangrenous piece of the rectum was passed, and soon the man died. At the autopsy there was found a perforation in the posterior wall of the rectum, and a large fecal abscess extending to the sacrum. There were no typhoid lesions in the intestinal canal, no caries of the sacrum or coccyx, and no apparent actinomycosis. The author believed that the affection was caused by the lodgement of the actinomycosis fungus in the folds of the rectum, giving rise to ulceration and abscess. The original fungus of actinomycosis can often not be found in abscesses of which it is the cause.

Perforating Ulcer of the Bladder.—Dr. Oliver describes (*Medical Times and Gazette*) an affection which has hitherto been looked upon as more or less peculiar to the stomach and duodenum, viz., perforating ulcer of the bladder. This affection is always acute, and is especially apt to recur. It usually develops without signs of inflammation or suppuration, and, as in the stomach and other parts of the intestinal tract, apparently results from the plugging of vessels which run in and nourish the coats of the viscus. Embolism and thrombosis are the most frequent causes of perforating ulcer in the bladder. The author adds that, in his experience, a rheumatic diathesis augments the tendency to this affection. Females are more prone than males, and especially about the period of puberty. The symptoms and course of this disease are usually very insidious, and fatal peritonitis may result before the condition has been recognized. Pain referred to the hypogastrium, and aggravated by pressure, or by over-distention of the bladder, is a frequent symptom. There is frequency in micturition, with sharp, cutting pain at the end of the process. The most distressing symptom is tenesmus, which results from spasm of the muscular coat, and may continue for some time after the organ has emptied itself. The treatment is rest and milk diet; opiates must be given to relieve pain.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 2, 1886.

THE THERAPEUTICAL USES OF OXYGEN.

OXYGEN composes one-fifth of the earth's atmosphere, one-half of the earth's crust, and eight-ninths of the water of the globe. It is an essential part of the daily food, the adult organism using about two pounds daily; over two-thirds of a quart is constantly circulating in the blood, and it is the most potent factor in the processes of tissue growth and change. It is not very strange, therefore, that oxygen should be thought to have great therapeutic possiblities, and that the imagination of the enthusiastic should at times be a little carried away by apparent evidences of its potency.

Oxygen exists in three forms: the nascent, represented by O, the ordinary form, O_2, and the condensed form, ozone, O_3. It is O_2 with which the organism has ordinarily to do. Oxygen enters the system mainly by the lungs, it is absorbed by the serum, and then is quickly taken up by the hæmoglobin of the blood-corpuscles to the point of almost complete saturation, *i.e.*, within nine-tenths of the point of saturation. The oxygen here is not in the form of ozone, as has been sometimes asserted, but is in its neutral form (O_2), and in loose combination with the hæmoglobin (Hoppe-Seyler and Pflüger). The oxygen exists to the extent of about 17 volumes per cent. in arterial blood. This normal proportion cannot readily be changed by any safe artificial methods. The inhalation of compressed air, or pure oxygen, and the practice of rapid respiration, may perhaps increase the volume per cent. a trifle. Regnault and Reiset have shown that warm-blooded animals in an atmosphere of pure oxygen do not absorb more oxygen or excrete more carbonic acid gas than in ordinary air, and P. Bert admits that even in an atmosphere of compressed air there is only a slight increase in the per cent. of oxygen in the blood.

So far as we can learn, therefore, all careful experiments show that in healthy warm-blooded animals the inhalation of pure oxygen causes almost no increase in the amount of oxygen in the blood. This amount is dependent upon another factor, *i.e.*, the amount of hæmoglobin in the blood. If this is increased, the oxygen amount is increased also, and in the same ratio the per cent. of iron—a fact of some significance.

It is the opinion of Rossbach and Nothnagel that oxygen inhaled in any manner whatever has no other effect in kind than the ordinary air supplied in extra abundance.

"Good, pure air, free from injurious gaseous, or solid impurities, has the same therapeutic effects as the inhalations of pure oxygen."

Oxygen has been recommended for a large number of diseases, *e.g.*, chronic phthisis, scrofula, epilepsy, diabetes, neuralgias, anæmia, asthma, pneumonia, asphyxiation, poisoning with toxic gases, intermittent fever, etc. The best results appear to have been obtained in the dyspnœa of pneumonia, asthma, in asphyxiation, gas-poisoning, and anæmia. Its value in chronic disorders of nutrition is still *sub judice*, and a practical objection to its use is the difficulty and expense of administering it in large amounts for a considerable period.

We cannot quite agree with the somewhat dogmatic views of Rossbach and Nothnagel, that the therapeutic use of oxygen is without a physiological basis. It is possible that the systematic, very slight increase in the per cent. of oxygen in the blood, caused by inhaling the pure gas, may give an impetus to the growth of hæmoglobin, especially when that substance is below the normal in amount. In other words, oxygen may stimulate hæmatosis just as iron is believed to do.

A NAVAL MEDICAL AND SURGICAL HISTORY OF THE REBELLION.

THE Secretary of the Newport Medical Society writes us:

"At the regular monthly meeting of the Newport Medical Society, held December 2d, it was voted that the associate member, Dr. Ayre, of the United States Navy, be requested to personally act with the Newport Medical Society in securing the publication of the valuable medical history of the United States Navy during the War of the Rebellion. A large portion of this material is ready for publication; but, owing to the want of Congressional appropriation, is not available for the use of the medical profession.

"The liberal aid afforded the Army Medical Department in publishing the 'Medical and Surgical History of the War of the Rebellion' is sufficient excuse, if any be needed, for pressing the importance of an appropriation for the naval medical and surgical history."

No single literary labor has done more to elevate American medicine in the eyes of the world than the editing of the volumes of medical and surgical history of the war by the Medical Bureau of the War Department. We sincerely trust that the surgeons of the navy may be given the means of carrying out a similar work. We have no doubt that the unanimous sentiment of the profession in behalf of the project can readily be obtained. We wish we could believe that this would carry weight with Congress.

THE CHANCES OF SUCCESS IN THE PRACTICE OF MEDICINE.

IT would be a matter of much interest if some comparative studies could be made showing the relative proportion of successes and failures in the learned professions and in business. At present the medical student is sent off from his Alma Mater with positive assurances that, if he will labor faithfully and wait patiently, success is certain to come. Is this the fact? It does not appear to be so with English medical students, at least. Sir James

Paget has traced the course in life of one thousand medical students, taken at random from an English college. About five per cent. of them failed utterly, while nearly ten per cent. more left the profession without giving it a fair trial; one-half made a fair living, six and a half per cent. achieved considerable success, and two and three-tenths became eminent. Of the whole number who began, less than two-thirds achieved any kind of success.

Such facts as these rather tell against the prevalent view that a man who chooses the medical profession is quite sure of in time getting a living. Yet we often hear this advice given to young men by those who have had some experience in the uncertainties of business.

Whether Sir James Paget's figures will apply to the United States, it is impossible to say definitely. The opportunities for a successful career are naturally much greater here, and if it were not for the fact that competition is twice as active a much larger percentage of successes would be scored. As it is, the probabilities are that of the four or five thousand medical students who are annually graduated by our schools over one-third of them fail or fall by the way.

THE EFFECTS OF CHEWING-GUM.

THE following appears in the columns of *The Sun*: "Two medical journals are fighting over chewing-gum. One thinks it preserves the teeth, develops the gums, and should be encouraged; the other points out the injurious draught upon the salivary glands and digestive organs, and its crushing effect upon female loveliness." We have searched in vain for the records of the interesting controversy referred to, and must conclude that it originated *de novo* in *The Sun* editorial office. It is possible that two medical journals might quarrel over the subject of chewing-gum, but physicians in general will quite agree, we think, that the practice should be indulged in only with the greatest moderation. The practice of stimulating one's secretions for the sole purpose of experiencing the pleasurable sensations connected with their flow is not a safe one. There may be an inebriety in chewing rubber-gum, and real sensuality in persistent indulgence in aimless mastication.

THE CARNEGIE LABORATORY.

IT is a source of great gratification to find that well-equipped laboratories for purposes of carrying on original research in medical science have been established in this country, despite the absence of Government aid. In this city there has been a particularly urgent need of some such institutions, and the erection and endowment of the Carnegie Laboratory marks a distinct step forward in the medical history of our metropolis. The influence of well-endowed laboratories for exact scientific research is not limited to those who have the opportunity of directly utilizing them, but extends to the whole community. We have no doubt that the work done in Carnegie Laboratory will raise the standard of work done in the medical societies of our city.

The Bellevue Medical College is to be congratulated on having obtained so good an ally as Mr. Carnegie.

SUBSTITUTION OF DRUGS IN PHYSICIANS' PRESCRIPTIONS BY DRUGGISTS.

A CORRESPONDENT from Chicago writes us a very indignant letter over the discovery which he has made, that a druggist has been substituting other preparations for that which he prescribed. We can imagine that, with the immense number of proprietary preparations in the market, the temptation for the druggist to use some other manufacturer's pills, hypophosphites, oil, etc., than the one prescribed, must sometimes be very great. The only honest course, however, is for the druggist, if he has to use another firm's preparation, always to inform the physician of the fact.

Furthermore, the physician on his side, should be very careful in prescribing certain manufacturers' preparations. It is hardly fair to compel a druggist to keep half a dozen lines of quinine pills, fluid extracts, or hypophosphite compounds, when most of them are probably of about equal merit.

News of the Week.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY FOR THE YEAR ENDING DECEMBER 31, 1884.—The report shows that in an army of 24,035 men, there were 263 deaths (10.9 per 1,000), and 36,829 cases of sickness. The average number of days lost by sickness to each man was 16.2, and the average number of days each case was treated was 10.6. This report compares favorably with those of preceding years, showing a decided decline in sickness. The rate is lower also than that of the British and French armies, though higher than that of the German army, the latter having been on a peace footing. Among the interesting additions to the Museum during the year may be mentioned, a model of the course of the fibres in the human brain, made under the direction of Professor Aeby, by F. Buechi, of Berne, Switzerland; a set of anthropometric apparatus and instruments similar to that shown in the Health Exhibition in London in 1884, and devised by Mr. Francis Galton; a series of colored plaster casts of frozen sections of the human body, as made by Professors Braune, His, and Rauber, of Leipsic; and a series of microscopes illustrating the history of the origin and development of this instrument. Facts regarding the library we have already given.

AN ENGLISH MEDICAL JOURNAL SUSPENDS PUBLICATION.—One of the four London medical weeklies, *The Medical Times and Gazette*, suspended publication at the close of the past year.

DEATH OF DR. JOHN ORNE GREEN.—Dr. John Orne Green, of Lowell, Mass., died on Saturday, December 26th, at the age of eighty-seven years. He was the author of a number of valuable medical papers, among which were "A History of Small-pox in Lowell, "Biography of Calvin Thomas, M.D," "Cases of Fracture of the Liver," "Memorial of John C. Dalton, M.D.," and "The Factory System in its Hygienic Relations."

SPONTANEOUS HYDROPHOBIA.—Dr. Dujardin-Beaumetz has read before the Hygienic Society a paper on what he regards as a well-established case of "spontaneous hydro-

phobia" in a man aged twenty-nine. Not only did all the symptoms which characterize that malady declare themselves, but the matter taken from the patient's body when he died communicated it to rabbits inoculated therewith. The patient declared on entering the Hôtel Dieu that he had not been bitten or scratched by a dog or any other animal, nor been in any sort of contact with one. The body was minutely examined before and after death, and the skin was everywhere intact.

CORRECTION IN DR. VAN SANTVOORD'S CASE BEFORE THE PATHOLOGICAL SOCIETY.—In the report of the proceedings of the New York Pathological Society, which appeared in THE RECORD for December 26, 1885, Dr. Van Santvoord, in the presentation of a carcinomatous uterus, should have been recorded as saying: "That the woman was attended by a midwife, in the capacity of physician, until three days before death, the midwife treating the woman for a 'blood cancer.'" There was no question of pregnancy in the case at all.

LARYNGOLOGICAL SECTION OF NEW YORK ACADEMY OF MEDICINE.—A meeting called for the organization of a Laryngological Section of the New York Academy of Medicine was held in the rooms of the Academy, on the evening of December 23, 1885, the President of the Academy occupying the chair. A valuable paper, entitled "The Surgical Uses of Electricity in the Upper Air-passages," was read by Dr. R. P. Lincoln, and was followed by a discussion. Dr. Rufus P. Lincoln was elected President, and, Dr. D. Bryson Delavan Secretary of the Section for the ensuing year, and a general plan of organization adopted. The interest in the Section manifested by the members present gave gratifying assurance to its future success.

BLACKWATER FEVER.—Dr. J. Farrell Easmon, of Accra, Gold Coast, West Africa, under date of November 9, 1885, writes: "In page 289 of your issue of September 12th, you quote a review of my pamphlet on blackwater fever from the London *Medical Record* of July 15th. My name is not Dr. Farrell, as you have it in your quotation, but Dr. J. Farrell Easmon."

MISSIONARY PHYSICIANS IN THE EAST.—Dr. Allen's letter on this subject in our December 12th issue has called forth many inquiries from correspondents. We are unable to give any further information than that contained in the communication referred to. Such of our medical friends as desire more should communicate with the missionary boards of their respective religious denominations.

A PROFESSIONAL PRETENDER.—Graduates of the Medical Department of the University of New York are cautioned against one Dr. F. W. Cowan, who is, under the pretence of being robbed, etc., borrowing money from members of the profession. Dr. H. C. Cooper, Clerk of the University, would be pleased to receive the names of those who have already been victimized.

SUCCESSFUL VACCINATION AFTER SMALL-POX.—Dr. E. D. Powers, of Lafayette, Ind., writes: "Having read the cases of successful vaccination after small-pox in the December 19, 1885, issue of THE MEDICAL RECORD, I am tempted to relate my case. My wife and her brother had the small-pox when young children, both sick at the same time. The brother's face is very badly marked, my wife's not so badly. So there is no doubt as to the nature of the attack in her case. My son, fifteen years of age, having found a point that had been used, playfully insisted on vaccinating his mother, and did so. The vaccination was successful, and ran through a typical course, very much to our surprise, as we considered her perfectly safe."

THE DOCTOR AND THE STATE.—Dr. Adolph Rupp, of this city, sends us some criticisms upon our editorial regarding the working of laws regulating medical practice. And he asks: "Are you not giving the State too much power, and in a State, too, where the existing laws regulating medical practice have been adjudged by the court as being as absurd as they are unjust?" It should be remembered that we have not defended present medical laws, but only the principle involved in making them; also, that laws regulating medical practice have very little to do with the doctor after he has become legally registered. Their aim is, or should be, to see that the State is supplied with educated physicians, not quacks. They alone require of the doctor very trivial services to the State, and they do not abridge his liberty more than that of other responsible citizens.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY, NEW YORK.—At the regular Annual Meeting of the Northwestern Medical and Surgical Society, held on December 16th, the following officers were elected for the ensuing year: Dr. J. H. Fruitnight, President; Dr. R. C. M. Page, Vice-President; Dr. S. Newton Leo, Secretary and Treasurer. From the reports presented by the various committees it was evidenced that the Society was in a very prosperous condition.

MATERNITY HOSPITAL, NEW YORK.—Dr. Egbert H. Grandin has been appointed Obstetric Surgeon to the Maternity Hospital, *vice* Dr. P. F. Mundé resigned.

A HYDROPHOBIA ASSOCIATION has been organized in London. Its objects are to check the great increase in the number of deaths from hydrophobia which has lately taken place. 1. To enforce existing laws as to the capture and destruction of stray and ownerless dogs. 2. To move Parliament for further legislation in reference to dogs, by an increase of the dog tax, and by making it compulsory to have the name and address of the owner on every dog's collar, and a ticket denoting that the tax has been paid. 3. To obtain all possible information on the cause, symptoms, and treatment of the disease, and to make the conclusions arrived at known to the public. 4. To take all such steps as may be considered necessary to further the objects of the Association.

INJUNCTION DENIED AGAINST THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—Albin Fulda, having brought an action against The New York County Medical Society asking that defendant be enjoined from instituting proceedings against plaintiff, under L. 1880, ch. 513, and section 356 of the Penal Code, forbidding any one to practise physic without authority, etc., obtained an order to show cause why defendant should not be so enjoined. After hearing the cause, Judge O'Gorman, last week, at Special Term of the Superior Court,

held that the case was not one in which an injunction should issue. On the moving papers it appeared that the actions instituted by the Society were to recover penalties. The answering affidavits showed, however, that on November 6th, Fulda had been convicted in General Sessions of a misdemeanor in practising physic contrary to the statute, and had appealed because, among other grounds, the Recorder ruled that the People in such prosecutions might rest their case on proving practice, and shift to defendant the burden of proving authority so to do (following People *v.* Nyce, N. Y. Crim. Reps., vol. iii., p. 150). The purpose of the injunction, therefore, was to prevent the Society from complaining of similar breaches of the criminal law.

This case has deservedly attracted attention, and Judge O'Gorman's decision is calculated to sustain a sound and wholesome rule. It appeared on the hearing that the plaintiff claimed to have received a medical diploma from a college in Halle, in Prussia, which diploma he had lost. Having had sufficient time to obtain from this college some verification of his statement, he failed to do so, when it would have been important to his defence in the criminal action which had been brought against him, and in which he was convicted of practising the profession of a physician without license. The general principle upon which Judge O'Gorman put his ruling was that a court of equity, in the exercise of a sound discretion, ought not, unless in the protection of a suitor from clear, manifest, and irreparable injury, to use its great power by injunction to stay proceedings of public officers, acting in good faith, under competent authority, in arrest of persons accused of violation of law. On this subject the learned Judge adverted to Davis *v.* American, etc. (75 N. Y., 369), and cases reported in 12 Abb. N. C., 436 et seq. The wholesomeness of the application of this principle to suits brought to enjoin the enforcement of the medical qualification and registry laws is obvious, in view of the great danger to the public from allowing men to practise medicine without due evidence of their proper preliminary education. There can be no doubt that, inconvenient as such regulations sometimes are to practitioners and those desiring to become practitioners, they are in the long run greatly to the advantage of the practitioners of medicine as well as to the public at large. Whatever raises the standard of professional qualifications inevitably improves the position as well as the usefulness of the profession, and the records of the law bear witness so frequently to the criminality of incapacity that the enforcement of restrictive regulation is a matter for congratulation.—*The Daily Register.*

A Compliment to an American Physician.—At the next meeting of the British Medical Association, at Brighton, the address in medicine will be delivered by Dr. Austin Flint. Of him the *British Medical Journal* says: "Dr. Austin Flint holds a position of recognized eminence and seniority in America, and has filled with honor the highest professional offices in his country. He is well known at the meetings of our Association, and has won for himself universal esteem and friendship. He is an admirable type of a class of American physicians, and, while retaining the national characteristics, is distinguished for cosmopolitan culture and calmness of judgment."

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 28, 1885.

Daniel Lewis, M.D., President, in the Chair.

The *Comitia Minora* reported, in

THE CASE OF BROWN VS. PURDY,

that nearly five thousand dollars had been pledged toward an indemnity fund, to be used if necessary in defraying the expense of further legal proceedings incident to an appeal.

Dr. J. Leonard Corning read a paper in which he described his method of producing

PROLONGED ANÆSTHETIZATION BY INCARCERATION OF THE ANÆSTHETIC FLUID IN THE FIELD OF OPERATION,

and exhibited the apparatus used for accomplishing this purpose. As injection into veins is not desirable, he adopts the precautionary measure of mapping them out with a blue crayon pencil after the circulation has been interrupted in the superficial veins by an elastic bandage. The next step consists in exsanguinating the limb with the Esmarch bandage, making a long fold behind the points of injection, and the application of this should cease when the lower boundary of the field of operation has been reached. The injections should be made after the application of the Esmarch bandage, and just above its border. First make superficial injections of a one or two per cent. solution of cocaine, and as soon as anæsthesia of the skin is accomplished, proceed to anæsthetize the deeper parts by injecting the tissues with a one or two per cent. solution by means of long needles. *The greater the extent of operation the weaker must be the solution used.* Make the injections as rapidly as possible, which should not occupy more than four or five minutes. Then apply a tourniquet a short distance above the upper border of the anæsthetic zone. The best tourniquet is an india-rubber band, three inches long and two inches wide, secured in place by a powerful clamp. Supplementary injections may be required, which can be made as rapidly as possible *after loosening* the tourniquet, and, when done, again tightening it. A complete description of this ingenious method will soon appear in a monograph.

The President cited a case which he regarded as a very good test of the value of Dr. Corning's method. It was one of recurrent epithelioma situated over the left shoulder-blade, and the incision for its removal was three and a half inches in length. The integument proved to be not less than one-fourth of an inch thick, and yet the patient went through the operation without complaint. Only one application of cocaine was made.

Dr. Milton Josiah Roberts regarded the technique of the method as essential, and the details should be carefully observed. He had adopted Dr. Corning's method satisfactorily in exsection of the elbow- and hip-joint, in osteotomies, scraping extensive abscesses in connection with bone disease, etc.

Dr. Paul F. Mundé then read a paper on

THE TREATMENT OF PELVIC ABSCESS IN WOMEN BY INCISION AND DRAINAGE.

By far the larger proportion of cases of pelvic peritonitis and cellulitis terminate in a gradual absorption and ultimate complete disappearance of the exudation, leaving either no traces whatever, or merely a more or less limited mobility of the uterus, or a vague fulness of the parametrium. This process of absorption may extend over months, and even years, severely taxing the endurance of the patient and the resources of the physician.

The rapid breaking down of the exudation and the formation of an abscess is comparatively rare, and may be considered decidedly the exception. It is most liable to occur when the exudation has formed very rapidly and is very large, and when the recuperative powers of the patient are below par. Suppuration occurs by far more frequently in cellulitic exudations than in those caused by pelvic peritonitis, and is most commonly met with when the cellulitis comes on after parturition at term or after an abortion. In cellulitis it is self-evident that the exudation and, *eo ipso*, the abscess is extra-peritoneal. In peritonitis, the pus, of course, lies in the peritoneal cavity; but the rapid formation of adhesions between adjacent folds of intestines and neighboring organs and tissues closes the abscess-cavity, and separates its contents from the rest of the abdominal cavity almost as securely as when the abscess is extra-peritoneal. This point is of considerable practical importance in deciding as to the safety of tapping or incising a pelvic abscess; for, if the adhesions which shut off an intra-peritoneal abscess from the rest of the serous cavity are sufficiently firm, and if the wall of the abscess is adherent to the abdominal wall, there is no more risk in opening such an abscess than if it were actually extra-peritoneal.

Fortunately, the necessity of making the differential diagnosis between these two conditions does not often occur, since cellulitis far more frequently terminates in suppuration than peritonitis.

When I suspect suppuration in a pelvic exudation, which I do either because the swelling persists undiminished long after nature should by rights have absorbed it, or because it becomes puffy, doughy, and boggy to the touch, or because distinct fluctuation can be felt, I first proceed to verify my suspicion by the aspirator, and having discovered pus, if the quantity is presumably small, attempt to remove it all by aspiration through the vagina, where the suspicious point is usually most prominent. I have had an aspirator made, with a long metal tube provided with a stop-cock, to which tube I first attach a hypodermic syringe, and when pus is found close the stop-cock, and substitute for the hypodermic a larger syringe holding about one ounce; opening the stop-cock, I then withdraw all the pus by repeatedly filling the syringe if necessary. If there are a number of small abscesses, so-called multiple abscesses, repeated introduction of the needle may be required at different spots, in order to remove all the pus.

To insure success by this method of simple aspiration (without incision and drainage, understand), it is absolutely necessary that the abscess cavity be so small as to permit of its contracting and closing when its contents are removed.

Accordingly as a pelvic abscess points toward a spot where it can be readily reached by the knife, or opens in some inaccessible cavity, such as high in the rectum or in the bladder, is the operative treatment easy or difficult.

As a rule, the rectal perforation is situated too high up to enable it to be reached and enlarged. Such patients may carry their abscesses about with them for years, and experience comparatively little discomfort from them, except the occasional purulent evacuations from the rectum.

If the abscess happened to burst into the bladder, it is even less easy to reach, and our efforts are almost wholly restricted to irrigating the bladder and preventing that viscus from catarrhal inflammation. This variety of pelvic abscess usually heals soon, because natural drainage is better provided for than in rectal perforation.

When the abscess opens through the vaginal roof, generally to one side or behind the cervix, drainage is mostly so perfect that, as the exudation is absorbed, the abscess cavity also contracts and closes. A necessary condition for this happy termination is that the opening remains sufficiently large to permit free drainage.

Some pelvic exudations extend not only down into the pelvic cavity (I have seen them in the recto-vaginal septum nearly down to the perineum), but also work their way over to the iliac fossa and into the supra-peritoneal cellular tissue of the anterior abdominal wall, dissecting off the peritoneum from the ileum and anterior pelvic wall, and forming a hard, brawny swelling, apparently immediately under the skin of the hypogastrium. Such exudations are rather prone to suppurate, and the pus will then usually point toward some spot to the side of the median line, toward the crest of the ileum.

The indication in these cases obviously is to follow the old surgical rule and give exit to the pus as soon as, and where it can be most distinctly felt, whether this be in the abdominal region or in the vagina.

If a soft, boggy, more or less fluctuating spot can be detected in the abdominal exudation, an aspirator or exploring needle should be thrust into it, and if pus is found, a grooved director should be inserted, and the abscess thoroughly opened with a blunt-pointed bistoury. All sinuses should be explored with the probe or finger, and thoroughly opened.

If the pus has burrowed deep down into the pelvic cavity, so that a probe passed to the bottom of the abscess can be felt through the vaginal vault, the abdominal incision alone will usually not suffice, since perfect drainage will be next to impossible, and pus will almost surely remain hidden in pelvic sinuses and retard closure of the abscess. Hence it is imperative to make a counter-opening in the vaginal vault, and to keep it open it is necessary to pass a drainage-tube through from the abdominal incision into the vagina and retain it there until the gradual closure of the abscess calls for its substitution by a smaller one, and ultimate removal.

Dr. W. M. Polk, at a recent meeting of the New York Obstetrical Society, reported a case of a suspected small abscess deep in the pelvic cavity opposite the ischiatic spine, in which fluctuation could not be detected through the vagina. Feeling sure that deep-seated pus existed, he cut down from the abdominal wall, pushed up the peritoneum, found the abscess by the aspirator, opened and drained it, and the patient recovered. It is seldom necessary, and not often thought safe, to cut down on such deep-seated accumulations of pus in the pelvic cavity; indeed, they can almost always be more easily reached through the vagina. And it would seem that vaginal drainage would be preferable, in such cases, to the abdominal exit chosen by Dr. Polk.

Intra-peritoneal abscesses are fortunately not so common as those in the cellular tissue of the pelvis and abdominal walls. And in the former, adhesions between the intestines and the abdominal wall are often so dense as to render the abscess practically extra-peritoneal. When the abscess then points through the abdominal wall, its incision, while really a laparotomy, does not open the free abdominal cavity, and is usually no more dangerous than that of a simple pelvo-parietal abscess. Of course, care must be observed not to break down the adhesions and open the healthy peritoneal cavity.

The mistake of calling the incision of a pelvic abscess which points through the abdominal walls a "laparotomy" appears to have been made by various authors and speakers.

Dr. Mundé's paper contained the histories of ten cases, at the end of which the author gave the following conclusions:

1. Pelvic abscess in the female is not very common, in proportion to the great frequency of pelvic exudations, and probably does not occur in more than ten per cent. of all cases, the majority of exudations terminating in spontaneous absorption.

2. Pelvic abscess may be either extra-peritoneal, the result of cellulitis (by far the most common variety), or intra-peritoneal, the consequence of pelvic peritonitis. If intra-peritoneal, the adhesive inflammation between pelvic viscera and intestines may so seal the abscess-cavity as to render it *practically extra*-peritoneal.

Abscess of the ovary and pyo-salpinx do not belong

in the category of "pelvic abscess" proper, and do not fall under the same therapeutic rules, unless when, by agglutination to the abdominal wall or to Douglas' pouch, they become virtually extra-peritoneal.

3. Small deep-seated pelvic abscess, not exceeding a capacity of two ounces, and minute multiple abscesses in the cellular tissue can often be permanently cured by evacuating the pus thoroughly with the aspirator. The surrounding exudation is then rapidly absorbed.

4. About one-half of the abscesses open spontaneously into the vagina, rectum, bladder, or through the abdominal wall and ischiatic fossa. These cases may gradually recover without treatment, or the sinuses may persist until closed by surgical interference.

5. Abscesses containing more than two ounces of pus should be opened by free incision along an exploring needle or grooved director, cleared of débris by finger or blunt curette, and drained and irrigated, if necessary, through a drainage-tube.

6. This incision should be made at the spot where the pus points most distinctly, which is usually the vaginal vault.

7. In a certain number of cases the pus points through the abdominal wall, generally in the iliac fossa, and the incision should then be ample, and free drainage should be secured.

8. When the pus has burrowed deep into the pelvic cavity, and a probe can be passed from the abdominal incision down to the vaginal roof, mere abdomino-cutaneous drainage will not suffice, and a counter-opening must be made in the vagina, and a drainage-tube carried through from the abdominal wound into the vagina. This drainage-tube may have to be worn for months. In making this incision, care should be taken not to wound the bladder.

9. The opening of a pelvic abscess which points through the abdominal wall does not differ from, and is no more dangerous than, the same operation elsewhere on the cutaneous surface of the body. It is not an "abdominal section" or a "laparotomy," in the sense that those terms are now used to indicate the surgical opening of the peritoneal cavity.

10. Chronic pelvic abscesses, which have burst spontaneously, and have discharged through the vagina, rectum, or elsewhere for months or years, are exceedingly difficult to cure. This is particularly the case when the opening is high up in the rectum. A counter-opening in the vagina, or enlarging the opening if there situated, the curette, stimulant irrigation, etc., may occasionally succeed, but usually fail.

11. A perityphlitic abscess may point through the abdominal wall, and simulate a pelvic abscess proper. Aspiration will settle the diagnosis; the treatment is the same.

12. The majority of cases of pelvic abscess recover; at least the mortality is small.

Dr. W. M. Polk presumed that all had been very much interested in the paper of the evening, especially as it formulated a number of very well-known rules, which we should never decline to receive, particularly when they came from a source so well able to impress us with their importance.

First a few words concerning the criticism entered on his own case. Dr. Mundé had expressed the thought that the case was one in which the pus might properly have been reached through the vaginal roof. Dr. Polk only wished that Dr. Mundé had been there to try it, for he tried his best, and so did the other gentlemen who were present; but the conditions were such as made it utterly impossible to do so without making an incision, which would have jeopardized the life of the woman. The abscess was located immediately in front of the rectum, and immediately behind the broad ligament, and there was no opening between the abscess and the vaginal roof. In fact, until the patient was anæsthetized, he was not at all sure that there was an accumulation of pus in the pelvis. Therefore he performed the operation he did, making a section as for ligation of the common iliac artery, separated the peritoneum from the sides of the pelvis as far down as the middle of the sacro-sciatic foramen, put in a drainage-tube, and the patient had done well.

Since the operation an abscess has opened into the original one, and now free drainage exists without entering the peritoneal cavity. He did not perform laparotomy for the reason that the abscess was situated deep in the pelvis, without any communication with the vagina, was limited in extent, and if he had opened the peritoneum he would have simply given access to that cavity, which would have been exceedingly dangerous.

It should be understood, however, that wherever the abscess can be reached through the vagina, unquestionably that is the direction from which it should be approached.

With reference to pelvic abscesses in general, the entire question had been gone over more or less thoroughly for ten or fifteen years, and he had hoped that Dr. Mundé would bring forward some new ideas with regard to the method of meeting this very difficult pathological process. He said this with all respect, because the author of the paper was so thoroughly posted in all gynecological subjects that he had come feeling that we were going to have a broader field opened up than had been presented.

So far as mortality was concerned, his experience did not agree with that of Dr. Mundé.

The general question was simply, not whether we should evacuate purulent collections in the pelvic cavity because all agreed on that point, but it was as to the propriety of opening the abdominal cavity for the purpose of establishing free drainage in obstinate cases of pelvic abscess. Dr. Polk thought that in many cases this method offered the best chance of saving the patient's life. One difficulty was, that many would hesitate to open the abdominal cavity in the beginning of these cases, and in the meantime sepsis has developed, with the depression which attends it. But even then he thought he should be disposed to make a section through the abdominal walls, to determine what was there, if no more than an exploratory incision, trusting to finding a condition of things which could be removed.

Perhaps it would prove to be a case of pyo-salpinx, and if so, abdominal section was the proper method of treatment. If an abscess, it would be a condition of things which would permit the operator to clear out the abdominal cavity and introduce drainage. This refers solely to those cases of obscure abscess which are situated deeply, and which cannot be thoroughly drained through the vagina, and in which, unless the pus is gotten rid of thoroughly, the patient will die. Dr. Polk then narrated a case as a representative of a class.

Dr. W. T. Lusk said that what he had to add was chiefly a matter of ancient history, which meant ten years' experience in connection with this subject. When he began work in Bellevue Hospital, in 1871, the obstetric service overshadowed the gynecological service, and the cases sent there were chiefly those of pelvic cellulitis and abortion. The cases of pelvic abscess were very severe, and at that time, strange though it might seem, there were but few practitioners who could diagnosticate this condition. He did not, at that time, know that when a large collection of pus was recognizable, any harm would come from making a large free incision and letting it out; and whenever he found fluctuation above the symphysis pubis with reddening of the skin, he assumed that the tumor was adherent to the abdominal walls, and that it was only necessary to make a sufficiently large incision to remove the patient from danger at once. He had never seen any serious symptoms when these abscesses had been opened *freely;* all the patients got well, and he did not believe that if the incision was made large enough originally it was necessary to establish drainage from the vaginal cul-de-sac. If pus is found by aspiration, make an incision, three or four

inches long if necessary, empty the sac, fill the cavity with oakum, pour in Peruvian balsam when the granulations are flabby, and the cavity soon fills up.

But there are cases in which it is necessary to pass a tube up through the vaginal cul-de-sac. Dr. Lusk then spoke of the first case which he saw treated in this manner. The consultation, consisting of Drs. Barker, S. B. Ward (now of Albany), and himself, disapproved of the method as it had been suggested by Dr. C. A. Leale, to which Dr. Leale said, "Then I would be happy to have you stay and look on." Dr. Lusk assisted. The exit into the vagina was found, the sinus was followed up and opened, and a drainage-tube was introduced. Within one month the patient was well, after having suffered *nine* years from pelvic abscess which communicated with the large intestine, and also opened into the vagina.

Dr. Lusk referred to a case in which a good man treated a pelvic abscess as a fibroid tumor for two years; the patient was cured by the drainage-tube in a short time. He also referred to *two* cases which illustrated the possibility of confounding ovarian cyst and pelvic abscess, and in both the patients were quickly cured by removal of pus through the vaginal cul-de-sac.

Dr. W. Gill Wylie could agree with a good deal of Dr. Mundé's paper, but there were some points on which he held different views. In the first place, very many of the cases which Dr. Mundé would call cellulitis, he would call pelvic peritonitis.

Again, he thought that probably four-fifths of the cases of pelvic abscess were really culminations of disease of the Fallopian tubes. There is first inflammation in the posterior layer of the broad ligament, lymph is thrown out, contraction ensues, the tube is rolled backward, both tubes and ovary are in a measure cut off from the general cavity of the peritoneum, and in this rolled-up tissue the great majority of so-called pelvic abscesses begin.

He had adopted this view within the last three or four years, and it had come from observations made in laparotomies.

He thought that Dr. Mundé had laid too little stress on the dangers of even puncturing with an aspirator in the vagina. He doubted whether he should ever attempt to puncture an abscess holding more than two ounces in the pelvic cavity, unless a mere phlegmon with boggy tissue and pointed. He regarded free drainage as the proper treatment, of course, as Dr. Mundé had stated, and he would first perform it through the vagina, but if that failed he would resort to other measures. His method of establishing this drainage is to introduce an aspirator-needle, dilate the puncture, and then insert a drainage-tube.

Dr. Irwin referred to a case of acute pelvic abscess in which he advised opening at once, but the circumstances surrounding the consultation were such as rendered it especially desirable to postpone for twelve hours, and in the meantime rupture occurred into the bladder. The patient recovered after a tedious illness. Dr. Irwin thought that the case illustrated the principle that the pus of acute inflammation should be evacuated at once, which might avoid long and painful illness.

Dr. Putnam-Jacobi thought it of great importance to have it laid down at what time after the subsidence of acute inflammation the operation should be performed. She cited a case in which she urged a prominent gynecologist to aspirate a pelvic mass which remained after an acute inflammation had subsided, with the view to the probable removal of a small quantity of pus, and thus prevent perforation somewhere else. He finally consented, and did draw off about a drachm of pus; but within a week there was a discharge of pus from the bladder, which was repeated three or four times. The patient recovered from the acute attack with an exudation which disappeared only after two years. The question is whether the irritation caused by the attempt to relieve the patient did not facilitate suppuration and ulceration into the bladder, which otherwise might have been averted.

Dr. Fruitnight related a case in which pelvic cellulitis was followed by abscess, with perforation into the rectum, and in which Dr. Leale established free drainage through the vagina. The patient wore the tube for four months, and is now well.

Dr. Mundé, in closing the discussion, was very much obliged for the response made to his invitation to discuss his paper. He would like, however, to take exception to the criticism that his paper contained nothing new, and desired to say that he did not claim that it did. He did not write it for that purpose, but invited his distinguished hearers to discuss it for the purpose of hearing from them something new, and he had had the pleasure of hearing several things.

As to the statement made by Dr. Wylie, that the great majority of cases of pelvic abscess are cases of pyo-salpinx, he did not believe that he should ever agree with him on that point.

He agreed with Dr. Polk that there was danger in opening abscesses through the vagina, because of the danger of opening the uterine arteries, and he had omitted to mention the fact in his paper. He had brought the subject before the Society because he wished to bring out a number of points in connection with these cases, and to especially make prominent the fact that they can be operated upon as easily as abscesses elsewhere, with certain precautions taken into consideration.

The first three gentlemen who participated in the discussion had wandered from the subject, as intra-peritoneal abscess did not come into consideration in his paper. He agreed with them as to the treatment proper for pyo-salpinx when it is loose in the pelvis. He had also thought it important to point out the difference between laparotomy and opening of the abdominal walls.

THE CROTON WATER SUPPLY.

Dr. John C. Peters, from the Committee on Hygiene, made a verbal report on the question of increased water-supply for the city of New York, and pointed out the advantages claimed for the Quaker Bridge Dam, and those which would follow the construction of the Sodom Dam, which could be built at much less cost and be made available within a much less period of time.

Dr. Atruzzo raised the question,

WHY SHOULD THE INDORSEMENT OF BELLEVUE HOSPITAL MEDICAL COLLEGE

protect illegally qualified practitioners of medicine? and promised to ventilate the subject more fully. No action was taken by the Society.

The Society then adjourned.

The Mental Symptoms of Aortic Regurgitation.—Dr. Douty contributes a few notes with regard to the relations between heart-lesions and certain forms of insanity (*The Lancet*). The author records fourteen cases met with in the Worcester Asylum, in which there was incompetence of the aortic valves. Of these, eleven were cases of mania, one of dementia, one of dementia with general paralysis, and one of melancholia. Of these eleven cases of mania, seven possessed very marked auditory and visual hallucinations; and from the author's observations he thinks it probable that, when fuller statistics are collected upon this subject, we shall arrive at the conclusion that the typical mental symptom of aortic regurgitation is a delusional mania, coupled with a condition of extreme instability of temperament. As surely as one discovers an aortic regurgitant bruit, almost so surely is one told by the attendant that the patient has an obstinate and irritable temper. Another very common accompaniment of this valvular lesion is the prevalence of hallucinations. Out of the fourteen cases recorded not one recovered. Rest may cause improvement for a time, but relapses always occur, and the patients never fully recover.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, December 14, 1885.

STEPHEN SMITH, M.D., CHAIRMAN.

THE INDICATIONS FOR LAPAROTOMY IN PENETRATING STAB- OR SHOT-WOUNDS OF THE ABDOMEN.

IN presenting the subject for discussion, THE CHAIRMAN remarked that penetrating wounds of the abdomen were of such frequent occurrence, especially in hospital practice, that they have a peculiar interest to the surgeon. The first question that confronts him is as to the extent and nature of the injury to the viscera of the abdomen, and it is generally exceedingly difficult to determine that question by the symptoms present. Even if he is satisfied that the viscera are wounded, he cannot decide as to the severity of the injuries and whether they call for operative interference. These difficulties grow out of the variable character of the symptoms which these injuries present in different cases and conditions, and the impossibility of deciding from the symptoms how amenable to treatment the lesions may be. It is a fact well recognized that cases recover in which the symptoms are of the most dangerous character, and, again, cases prove fatal in which the symptoms are very slight. Every surgeon treating these wounds has felt an almost irresistible impulse to open the cavity of the abdomen, and settle at once the question as to the exact nature of the lesions by ocular inspection, and proceed accordingly. Delay has seemed to him likely to prove fatal, and yet he has hesitated, owing to the perhaps greater danger of the operation than the injury. Recent experience has, however, proved that laparotomy, as an exploratory operation, is by no means as dangerous as has heretofore been believed, provided it is performed with proper precautions. If, indeed, an exploratory operation may thus be performed with impunity, one great obstacle to the successful treatment of these wounds is removed. We are favored this evening with the presence of surgeons of different hospitals, and of gynecologists of large experience, and it can but prove interesting and profitable to listen to their statements and opinions. He called upon Dr. J. D. Bryant, of Bellevue Hospital, to open the discussion.

DR. JOSEPH D. BRYANT said that the statement that "laparotomy should be performed in all cases immediately after the accident" embodied the important part of the question before the Section. He could not advocate the sentiment contained in the statement. It could not be said that it had yet been accepted by the general profession.

Conservatism was especially necessary in the advocacy of an operation the propriety of which, as yet, was surrounded by doubt. Marked advancements have been made in abdominal and general surgery, but it cannot yet be proclaimed that "laparotomy in all cases should be performed immediately after the occurrence of the accident." Few, indeed, were the hospitals that possessed the facilities necessary to the proper performance of the operation immediately.

With the permission of the Chairman, Dr. Bryant would transfer the words of the statement so that it would read, "Should laparotomy be performed in all cases immediately after the accident?" This question practically embodies three others:

First, should laparotomy be performed in any case? *second*, should laparotomy be performed in all cases? and, *third*, when contemplated, should it be performed immediately after the accident?

Ovariotomy and laparotomy for other conditions in the female are accepted operations. There is no proof that the peritoneum of the male is less tolerant of manipulation than that of the female. The length of time occupied, and the extent of raw surfaces made in many of the successful operations for conditions within the abdominal cavity, removes objections in this direction against operative interference in penetrating wounds of the abdomen.

The practical points to be considered in a case of penetrating abdominal wound that do not exert an equal influence in laparotomy for other common diseases are:

First, doubt whether the abdominal viscera have been injured. An exploratory laparotomy will enable the operator to answer this question.

Second, existing shock. This element is almost entirely limited to those cases in which laparotomy is proposed for penetrating wounds. Slight shock is always present. He believed, however, that it had been established that when severe shock followed immediately after the injury, it was due, in the great majority of cases, to loss of blood. If due to loss of blood that loss should be checked at once, and exploratory laparotomy will decide this question.

Third, unfavorable surroundings of the patient. This, like the second, was limited to laparotomy for penetrating wounds.

Fourth, unskilled operators, by which was meant that the attending surgeon may not have had his attention *forcibly* directed to the details of the operation. This obstacle can be readily overcome.

Fifth, greater exposure of the abdominal cavity and its contents. The great caution necessary in finding and removing from the abdominal cavity all the blood and extravasated intestinal matter, to check hemorrhage, and also to detect all points of injury, requires a thorough examination of the intestines and the omentum according to a preconceived method, rather than with roughness associated with haste. Time should not be considered; but care and completeness should be the determining factors in every case.

Sixth, existence of hemorrhage. In visceral perforation intra-abdominal hemorrhage is necessarily a constant feature. The suspicion of the existence of such hemorrhage is sufficient to indicate an exploratory incision.

Seventh, extravasation of intestinal contents. This is a part of the history of penetrating abdominal wounds, and is not to be dreaded by surgeons. Fecal and urinary extravasations constitute the strongest indications for laparotomy.

Eighth, the greater difficulty of cleansing the abdominal cavity. It is more tedious and difficult than under other circumstances, but of greater importance than in laparotomy under other circumstances. Its thorough performance, especially with reference to intestinal contents, appears to be the only means of saving the life of the patient.

Dr. Bryant believed that laparotomy was a justifiable operation, but that it should not be attempted, even in so-called favorable cases, unless the operator could avail himself of many of the recognized means of procedure necessary to combat the shock of the operation, and was sufficiently familiar with its steps to operate with accuracy and despatch.

Second, should laparotomy be performed in all cases? This question had been allotted to others to discuss.

Third, when contemplated, should it be done immediately after the accident? All things being equal, it should be performed at once; that is, as soon as the necessary preparations can be made.

Dr. Bryant believed that laparotomy should be of two kinds, exploratory and actual.

Among the common causes of death from penetrating abdominal wounds are hemorrhage, peritonitis, septicæmia, exhaustion, etc. Blood and intestinal contents can be recognized through the exploratory opening.

Does the explorative incision expose the patient to unusual danger? He thought not. It seemed to him that surgical experience answered the question in the negative.

Dr. Robert F. Weir remarked that in respect to penetrating stab wounds of the abdominal cavity a mere expectant plan of treatment could be followed, as the slighter impetus of a knife would more likely permit of the intestine escaping injury than when the belly was invaded by a bullet. This fact was well shown long prior to the experiments of Parkes by those of Hoyne, who in refuting, in 1865, the advice given by Legouest in gunshot wounds of the abdomen, to "enlarge the wound and draw out the adjacent intestine with the finger, and sew up the opening if thus found," showed, by shooting with a revolver of thirty two calibre into cadavers at a distance varying from three hundred and seven paces, that in eighteen bodies there were ninety wounds of the intestines produced, and that in only two instances were the bowels uninjured. We must expect, therefore, in penetrating gunshot wounds of the abdomen, to have numerous visceral injuries. In Bull's successful case there were seven openings in the intestines, and in Hamilton's eleven. In the experiments of Hoyne the greatest number found in one cadaver was ten, but Longmore gives a case where a wound received by a man when defecating perforated the bowels sixteen times. While perhaps some variation from the severity of the injury made by a ball may be found in battle, yet in the close-range shooting that so frequently sends patients to a civil hospital the determination of the simple question of the penetration or non-penetration of the abdominal cavity by a ball is all important. This is better done by the enlargement of the wound and the introduction of the finger, though sufficient information may in many instances be obtained by the probe. But clinically it is found that every case of such a wound does not justify a laparotomy. When such a patient comes under the eye of a surgeon, the collapse in which he or she is in may, and too often does, prohibit utterly surgical interference. In only one condition is there an operation justifiable, and that is for the arrest of the hemorrhage which may be the cause of the shock. To determine this so difficult question, Dr. Weir suggests a small incision, under cocaine or without an æsthetic, be made in the median line, or that the wound of a direct one be enlarged and a sponge on a stick be thrust down to the pelvis or into the lumbar gutters. Its state on withdrawal will at once decide the question—if no bleeding has occurred, the wound can be closed, and a better condition of the patient awaited for, to undertake the more important act of exploring for wounded viscera.

Where the general condition of the patient warranted, he was strongly in favor of laparotomy in the treatment of these cases of gunshot injury. In addition to the successful cases already referred to, there was another of gunshot wound reported in Demarara, where the bullet was found by laparotomy imbedded in the liver, whence it was satisfactorily extracted. In such operations not only should antisepsis be rigidly carried out, but a rather large abdominal section should be made, so that the intestines could be rapidly handled, either by turning them out of the peritoneal cavity, which is the most certain, but probably the more dangerous, plan, or by passing the coils between the fingers and keeping them in the abdominal cavity. The former plan has the weight of the authority of Treves in its favor.

It is admitted to be an operation of great risk, but, done for an injury, nearly always fatal. However, it seems that those cases in which fæces readily escape through the wound have a better chance of recovery than where this symptom is absent. Whether more of such cases recover in this way than would after laparotomy is premature to say; indeed, the whole subject of laparotomy for gunshot wounds is so recent that he would not wish to be too dogmatic in presenting the foregoing views, and would like to maintain a reserve of judgment to be strengthened by further experience.

Dr. W. M. Polk said that he had had no experience in gunshot wounds of the abdomen, and if he made any remarks in response to the invitation of the Chairman they should relate solely to abdominal section from the standpoint of gynecology. Laparotomy for gunshot wounds was, to his mind, a more serious operation than the usual section for the removal of ovarian tumors or diseased tubes.

Save in the event of extensive adhesions, in neither of these conditions was it necessary to disturb the intestines or other viscera to any extent. The time usually at our disposal in which we studied the cases gave us in many instances a fair idea of the relations of the growth to be removed. This in itself was a great advantage.

When one looked back at the operations but recently performed for the removal, for instance, of the tubes and ovaries, and contrasted the results as then obtained with those now had, some light might be thrown on the causes which made operations for gunshot wounds of the intestines more dangerous than operations for the removal of bodies whose position could in a measure be determined beforehand.

Formerly it was the custom with many operators, in case adhesions were found, to consume much time in separating them; if there was even oozing, the intestines, which had already been much disturbed, were lifted from the pelvis, pushed up into the abdominal cavity, or were laid out on the abdominal surface; every bleeding point was scrupulously stanched, sometimes even by the use of powerful hæmostatics; in fact, the peritoneal surfaces, visceral and parietal, were much handled and exposed. As a result these cases often died. Such, in fact, was the mortality that every one shrank from the operation. The idea prevailed, as in a measure accounting for the mortality, that the virgin peritoneum was a specially inflammable tissue, and old cases, cases which had been the victims of one or more attacks of peritonitis, were considered the more favorable. Some maintained that the American women were more prone to the cause of death appertaining to abdominal section.

With the introduction of better methods of operating, these ideas had been abandoned as the mortality had lessened. For this advance we were indebted to Mr. Tait. Now we made small incisions, if possible, we went directly down into the pelvis, and in the removal of the tubes and ovaries did, in nearly all cases, our work by the sense of touch. Adhesions were torn up, and, unless there was something more than general oozing, we put in a drainage-tube, with the assurance that the bleeding would soon cease. There was very little exposure of the peritoneum, and very little handling of the viscera.

Now, these conditions might even be present in the removal of tumors of large size, for the intestines in such cases were pushed well aside by the growth; and owing to the improvement in the conduct of such cases adhesions were becoming less common, certainly less extensive; consequently less excuse for exposing and handling the intestines.

If this could obtain in the operations for the relief and cure of gunshot wounds, Dr. Polk thought laparotomy for the one class of cases would be as harmless as the same operation for the other. It was for the great surgeons to say whether such could be brought about.

As to the danger of simple exploratory incisions, that would depend upon how much exploring was done. In the case of a tumor, even of considerable size, an exploratory incision would involve but little risk. As pointed out, the intestines in such cases were usually pushed well aside, back, and above, so that the hand could be carried around such growths with but little disturbance to the viscera. Supposing the case to be one of a small pelvic growth, we would carry our fingers into a territory comparatively limited.

In one whose topography was fairly fixed in our minds, as the result of previous vaginal and rectal examinations, there was but little disturbance needed to obtain positive and speedy knowledge of the conditions present. Was this possible in exploratory incisions having for their

object the determining of the damage done in cases of gunshot wounds? He thought not. The amount of handling and exposure of the viscera that would be needed to gain accurate information in cases of gunshot wounds made such an exploration more hazardous than such as fell usually to the lot of the gynecologist.

As regards the mortality of abdominal sections, Dr. Polk would cite the results obtained in the department of gynecology in Bellevue Hospital during the present year. In that department alone there had been some forty-five such sections, covering the removal of the various pelvic morbid growths, from simple ovaries and tubes to uteri, the seat of fibroid disease, and there had been but three deaths.

This, too, in a general hospital, which but a few years ago was spoken of as a pest-house. Several of Dr. Polk's operations had been done in the general amphitheatre, before several hundred students. All of these cases had made excellent recoveries.

Dr. Polk did not believe that the difference in the results now obtained in the so-called "Tait cases," as compared with those obtained a few years ago, could be set down to the presence of sepsis then and its absence now. Many of the worst results under the old method of exposure and handling had been obtained in the midst of the fiercest rage of Listerism; in fact, he was not so sure but that some of the fatal results were due to the too free use of disinfectants rather than to their absence.

We were probably no cleaner now than we were then. Then it was with the aid of disinfectants, now with the aid of boiled water and soap. But now we operated better. He did not regard a properly made exploratory incision as specially dangerous in itself.

In answer to a question from the Chairman, as to whether he considered the pelvic peritoneum more tolerant than the abdominal peritoneum, Dr. Polk replied that, to his mind, the tissue was in all essential respects the same in both regions. The fact that pelvic peritonitis was so common, that it was generally local, and so rarely fatal, was, in his opinion, a mere matter of location. Owing to the position of the patient, gravity tended to keep the offending matter at the bottom of the sac. Such was not the case when the offending material attacked the upper parts of the peritoneal sac. In the one case the conditions were generally favorable for the encapsulating of the poison by the quickly forming plastic exudation; in the other, that is, when the poison gains access above, it is constantly tending downward, and the limiting exudation is steadily encroached upon till finally it gives way. If the position of patients with pelvic peritonitis were to be reversed, so as to make that region the highest, he was disposed to think that cases of general peritonitis would as often spring from pelvic peritonitis as from peritonitis beginning elsewhere, it being understood, of course, that the poison originating the inflammation should be the same in any cases selected for comparison.

Dr. Alfred C. Post remarked that there was a great difference in the danger of abdominal wounds, depending on their situation. The danger of fecal extravasation was much greater in wounds of the umbilical zone than in those of the epigastric or hypogastric zone. Punctured wounds penetrating the stomach are much less dangerous than those which penetrate the intestinal canal. Dr. Post remembered a case to which he was called, in which a man was stabbed in the epigastric region, in which there was a protrusion of omentum at the wound, and vomiting of undigested food with a considerable quantity of blood. Perfect quiet was enjoined, with entire abstinence from food for several days, nothing being taken into the stomach but small pieces of ice. The patient recovered without any alarming symptoms.

Small wounds of the abdomen may give rise to fecal extravasation, as in a case which was presented at Dr. Post's clinic, in which a persistent fecal fistula followed the use of an aspirating needle, in the hands of a physician unknown to the reporter, designed to evacuate the urinary bladder. A small, indirect wound penetrating one of the hollow viscera is sometimes more dangerous than a large, direct one, the extravasated material in the one case being confined in the abdominal cavity, while in the other there is no obstacle to its free escape through the wound. Dr. Post related a remarkable case of recovery from a gunshot wound of the abdomen, which occurred during the draft riot in this city in the war of the rebellion. A man who had not emptied his bladder for many hours was standing on Fourth Avenue at the corner of Twenty-second Street, when he was struck in the lower part of the abdomen with a large bullet fired from a gun in the hands of a man on Third Avenue. There was a great gush of urine through the wound, and the patient was soon after seen by Professor W. H. Van Buren, who continued to attend him. The wound was so large and direct that the urine readily escaped from it, and the patient recovered without any very formidable symptoms.

Dr. Post expressed the decided opinion that in penetrating wounds of the abdomen, attended with extravasation of fæces, urine, or bile, or with copious hemorrhage, the danger is greatly diminished by laparotomy, followed by a thorough washing of those parts of the cavity which have been contaminated by contact with foreign material. He alluded to the practice of Mr. Lawson Tait, who introduces into the peritoneal cavity large quantities of warm water, lifting the viscera with his hand, and moving them so that the water may flow freely over every part of their surface.

In cases of formidable hemorrhage from abdominal wounds, the patient's safety is greatly promoted by exposing and tying the bleeding vessels.

Dr. W. Gill Wylie said, if we understood thoroughly the pathology of shock, we could better answer the questions asked. I do not altogether agree with the remarks of Dr. Polk. It is true that the older methods of doing laparotomy gave very bad results, but I am certain that it was not shock that caused death in most cases. The large openings made in the abdominal wall, and the prolonged operation, gave greater exposure to septic poisons, and the larger number of assistants increased the number of hands, instruments, etc. My opportunity for seeing others operate for the past thirteen years have been great; and I am certain that at least four-fifths of the deaths have been due to sepsis.

My opinion is that the peritoneum and intestines will stand a great deal of handling without serious results, provided we do not cause hemorrhage or infect with septic poison.

In a large experience I have come to the conclusion that, as we operate to-day, shock is to be feared chiefly in those cases where we have large vascular growths to deal with, such as vascular myomatous tumors, where a certain amount of hemorrhage cannot be avoided, and we often lose more blood than we think. Enough attention has not been paid to the direct influence of removing intra-abdominal pressure. Often the intra-abdominal tension is very great, and when we open the abdomen the immense blood-vessels of these vascular tumors fill and distend, and may thus take a pint or more of blood suddenly from the circulation. Besides, we know the capacity of the abdominal and pelvic blood-vessels and that they can hold one-third or more of all the blood, and when intra-abdominal pressure is removed they fill and distend, and in a measure thus account for the shock. When we pull on the uterus when the abdomen is open signs of shock often at once become apparent. Now we can push up the uterus by the vagina, when the abdomen is closed, and no such result is produced. I think this is due to the suction action caused by atmospheric pressure. As the uterus is lifted the immense pelvic veins fill and suddenly withdraw a certain amount of blood from the heart. A sudden withdrawal of a relatively small amount of blood will thus cause shock.

To obviate this result, I would try to force back blood into the circulation, by means of an elastic bandage, or pressure on vascular tumors, before tying the arteries that supply them with blood, and after the operation always secure even, elastic pressure over the abdomen and pelvis by means of strapping and bandaging, with a large amount of cotton-wool over the whole surface. My views are, then, avoid hemorrhage or a sudden withdrawal of blood from the general circulation and you will not often have dangerous shock from operating. Keep away septic poison by as little exposure of the peritoneum as possible, and carefully wash out of the peritoneum blood, pus, or any matter likely to cause sepsis; and to accomplish this I do not hesitate to syringe the peritoneum with one to ten thousand bichloride of mercury, or one to one hundred carbolic acid, and follow this with boiled water at a temperature of 102° or 104° F. To prevent any excess of water remaining, I usually put under the small of the back an elastic pillow, which will prevent sagging on the sides, and I then carefully sponge in Douglas' pouch. I certainly would not hesitate to open and explore in any case of wound to the peritoneum or intestines, where the life of the patient was in danger from either hemorrhage or perforation.

Dr. L. M. Bingham, University of Vermont, Burlington, was invited to participate in the discussion, and said that in cases of shock from wounds of the abdomen, or from any other source, he believed they were followed by temporary paralysis of vaso-motor nerves, and consequently there was dilatation of all the blood-vessels. He believed that the capacity of the blood-vessels in the abdominal cavity was sufficient, when dilated by shock, to contain all the blood in the body, hence, under such circumstances it was good practice to compress the abdominal viscera with firm and steady pressure, thus preventing the blood-vessels from overfilling with blood. In simple cases of syncope this pressure is followed by immediate restoration.

Dr. C. S. Wood said this was an important question and discussion, as the remarks made would be published and scattered broadcast through the land.

Should all cases of penetrating wounds of the abdominal cavity be treated by laparotomy? In reply to this it should be considered that, in our large cities, with the best of surgeons, good hospitals, all the means of antisepsis at our command, and with the patients seen early, this course may be advisable; but of the whole number of cases occurring throughout the country probably not more than one in twenty will occur where such advantages exist. Few, comparatively, of the profession are capable or qualified to perform successfully this operation; besides, they have not the necessary means at command, now considered so indispensable, to make the operation a success; therefore we should not be in haste in recommending it in all cases. There can be no question, but with our present antiseptic precautions very many valuable lives may be saved, and he often thought that had Jim Fisk received the same treatment that Dr. Bull gave his patient, he might have been alive to-day.

If he might be permitted to refer to army experience he would state that we saw a great many perforating wounds of this cavity, that we did not use antiseptics at that time, and that most of them died, even on the field where they fell, before we saw them at all. Still, some recovered, three such cases being reported by him in "The Medical and Surgical History of the War," cases where fecal discharges occurred from both the point of entrance and exit of the bullet. Other cases recovered where the cavity was opened by a piece of a shell, and portions of the omentum either sloughed or were cut away by the surgeon. For one he was disposed to be rather conservative in this as well as other operations, as shown by a paper recently read by him before one of our sister societies on the treatment of intestinal obstruction, in which he urged the use of all other means before proceeding to the severe and usually fatal operation of laparotomy.

Dr. A. C. Bernays, of St. Louis, said: I think the question must be answered in the affirmative. There is given a *perforating* wound of the abdomen, we are in ignorance as to the inward or deeper injuries. We know, and the remarks of Drs. Bryant, Polk, and Wylie confirm the fact, that explorative laparotomy is not a dangerous operation. It is evident, then, that by performing laparotomy, we do not increase the already existing danger caused by the traumatism. The operation, first, makes a diagnosis possible, and, secondly, permits us to adopt curative means. We may expect to save many lives by this operation, and I am emphatically in favor of its performance in all cases. This morning, through the kindness of Dr. Dennis, I saw a case where laparotomy was performed soon after a stab wound. The gut was found perforated in two places. Dr. F. S. Dennis stitched the wounds, replaced the bowel, and I can assure you, that the patient is perfectly well at the present time, fifteen days after the accident. In illustration of the fact that nature will sometimes achieve a cure unassisted by surgical skill, I will relate the following case, which I saw in consultation with Dr. E. Voerster, of St. Louis, some months ago. A child, about five years old, was shot in the abdomen, the ball entering just above the middle of Poupart's ligament. There was free discharge of thin fecal matter through the opening for four or five weeks. Evidently adhesions had formed and there was practically an artificial anus through which a part of the contents of the alimentary canal was discharged, another part passing off *per vias naturales*. The anus closed spontaneously, aided only by salves and perhaps some cauterizations. Had I been called early in the case I would most probably have done laparotomy. I would consider it bad practice on the part of the surgeon to refuse laparotomy in such a case, while I must admire the courage (or the blissful inactivity) displayed by the physician in this case.

Dr. George G. Hopkins, of Brooklyn, asked: Do I understand Dr. Weir to say that the exploratory incisions should always be the enlarging of the original wound?

Dr. Weir answered in the affirmative.

Dr. Hopkins: Then, Mr. Chairman, it seems to me that in comparing laparotomy for penetrating wounds with laparatomy done by abdominal surgeons, as suggested by Drs. Polk and Wylie, for the removal of ovarian and other growths, we have lost sight of the fact that these operations are always done in the median line, while the others are more frequently done in other parts of the abdominal parietes, the former involving no muscular and the minimum amount of other tissue; therefore the two series of operations are not comparable. Furthermore the innocuousness of women to abdominal incision, as compared with men, though generally believed, is yet to be proven, as it is founded upon the fact of their great tolerance of incisions done in the linea alba. It occurs to me that the better practice would be always to make even the exploratory incision in penetrating wounds in the median line.

The Section then adjourned.

A Specific against Cholera and Typhus.—According to a St. Petersburg paper the celebrated Russian traveller Dr. Fodtschenco recently discovered in Turkestan a plant which is said to be an excellent specific against cholera and typhus. It is used by the natives of Central Asia against all kinds of maladies, and every effort has been made to keep its properties from the knowledge of Europeans. The plant, which is named "Ferula Sumbul," has been acclimatized in the Moscow Botanical Garden, and the justly great name of Fodtschenco deserves this notice of its merits.—*Paris Correspondent of Philadelphia Medical Times.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BROWN LECTURES FOR 1885—METABOLISM—THEORIES AS TO THE NATURE OF CRETINISM—THE DUPLEX FUNCTION OF THE THYROID GLAND—RESULTS OF REMOVING IT—CHANGES IN THE GLAND IN CASES OF MYXŒDEMA—RECENT NERVOUS PATHOLOGY—NERVE-CENTRES AND THEIR RATE OF DISCHARGE—LOCALIZATION—VIEWS OF MERIC AND SCHIFF—A NEW THEORY OF ANKLE-CLONUS—FUNCTIONAL DISORDERS OF THE CENTRAL NERVOUS SYSTEM PRODUCED BY LOSS OF THE FUNCTION OF THE THYROID GLAND AND PITUITARY BODY RESPECTIVELY—EXPERIMENTAL EPILEPSY.

LONDON, December 12, 1885.

WITH the advent of December the season has arrived at which the "Brown Lectures" are delivered. They consist of an annual course of about five lectures, delivered at the London University by the Professor of Pathology at the Brown Institution. This institution was founded in connection with the University of London about ten or twelve years ago, by means of a munificent legacy bequeathed for the purpose by a wealthy gentleman named Brown. It is located in Vauxhall and comprises, in the first place, a hospital for animals, with in-patients and out-patients, and, secondly, a laboratory with appliances for physiological and pathological research. The Professor-Superintendent is expected to make researches, and a condition of his retaining the appointment is that he shall deliver a short course of lectures every year at the University of London on some subject in comparative pathology. These usually embody the results of the researches made during the previous year. Among former professors may be mentioned Dr. Burdon Sanderson, formerly Professor of Physiology in University College, London, and now Professor of the same subject at the University of Oxford. The present holder of the appointment is Mr. Victor Horsley, a former pupil of Professor Sanderson's and a distinguished graduate of the University of London. Mr. Horsley is still quite a young man, but is already favorably known by his investigations. The lectures now in course of delivery are in part a continuation of those given last year, of which some account appeared in your columns at the time.

The first lecture was delivered on December 7th. In this Mr. Horsley proceeded to develop still further the views which he enunciated last year as to the functions of the thyroid gland, the symptoms caused by its removal, and their relation to myxœdema and cretinism. After briefly referring to the terms on which the lectures were instituted and specifying the subjects he proposed to take up in his course this year, Mr. Horsley opened by discussing at some length the subject of metabolism. Metabolic processes, he remarked, must be of two kinds, viz.: constructive and destructive. There must be a controlling influence though this was not necessarily an inhibiting influence. If there were a mechanism of control it must be dual. Excretion was both destructive and constructive. The urinary secretion was an instance of the latter. Excretory functions were much easier to study than the building-up of tissue. The thyroid gland was an excretory body. Such a body did not necessarily possess a duct. He regarded the thyroid as an organ which took up worn-out material and by its functions *led to* the building-up of tissue. He stated last year that myxœdema and cretinism were respectively acute and chronic forms of disease following loss of the thyroid.

He now remarked that there were two views at present current as to the nature of cretinism and cachexia strumipriva. One of these was that it was virtually a condition of chronic asphyxia. This he termed the Swiss view. It was advocated by Kocher and Schiff. The latter had found that in animals from whom the thyroid had been removed and who had reached a moribund condition, life could be prolonged by opening the trachea and performing artificial respiration. But in no case could life be thus prolonged for more than a few hours—twelve at most—and Mr. Horsley remarked that it was known that artificial respiration stimulated the heart and he considered the prolongation of life as due to this cause. The other view, he said, might be termed the English view. It was that the condition was caused by a lesion of the sympathetic.

Last year, he said, he had stated that the function of the thyroid was duplex, viz.: First, that it regulated muciparous metabolism, and, second, it was a hæmapoietic, gland. He now had further proofs of the latter to offer. He had observed that extreme anæmia *immediately* followed removal of the thyroid. Its immediate occurrence showed that it was not due to a secondary cachexia. He had also found (by means of observations made with the hæmacytometer) that the red blood-corpuscles contained in the thyroid vein were markedly in excess of those in the thyroid artery. The relative proportions varied considerably in different cases. This tended to show that the physiological importance of the thyroid varied considerably. These experiments were made on dogs. As corroborative of his view as to the hæmapoietic function of the gland Mr. Horsley referred to its enormous vascular supply.

The loss of function ensuing on removal of the thyroid caused symptoms due to defective nutrition. Mr. Horsley now recognizes three stages in the myxœdematous condition caused by removal of the thyroid; viz., 1, neurotic; 2, mucinoid; 3, atrophic. The third stage, he said, he had only observed since the publication of his previous observations last year. It was marked by general imbecility and atrophy of all the tissues, especially the muscles. It was producible only in monkeys. It had not previously been found possible to prolong life beyond the second stage, but by the application of heat he had been able to do so. By placing the monkeys in a temperature of 90° their lives had been prolonged, but not for more than a month in very young animals. At the onset of nervous symptoms they were placed in a vapor bath at 105° F. The recognition of this stage, he thought, showed a distinction between myxœdema and cretinism. In this case the animal lived through myxœdema into cretinism.

The symptoms due to removal of the thyroid were atrophy, dryness of the skin (lessened by heat), tremors, loss of hair, and caries of the teeth. The age of the animal was an important point. Removal of thyroid produced a greater effect on a young than on an old animal. Mr. Horsley also suggested that the thyroid had an influence on the (real) age of a man, and said he would parody a statement of Dr. Hughlings Jackson, and say that a man's age did not depend upon the number of times he had been round the sun, but upon the state of his thyroid gland. The state of previous nutrition was an obvious factor and stood next to age. The proclivity of females to myxœdema was very marked. The Report of the Clinical Society showed that out of more than one hundred cases only fifteen were males. Mr. Horsley thought that in females special causes might be in operation. In males, he said, the tissues tended more to develop in the direction of specialization. Bone, fibrous tissue, fatty tissue, would be the order in men; the reverse order would represent the tendency in the female sex. The thyroid gland varied with the condition of the uterus. Thus it varied during menstruation and pregnancy. He might remark, too, that in females the mucous tract was somewhat more extensive than in males.

The changes in the thyroid gland from myxœdema resembled those which are senile. There was apparently chronic congestion of the whole gland, and then degenerative changes which were not simple atrophy. Dr.

Hughlings Jackson had suggested that these were due to changes in the medulla.

In the second lecture (December 9th) some account was given of some researches into the pathology of the central nervous system. Mr. Horsley devoted some time to discussing the rate at which nerve-centres discharge. The term centre, he said, was a vague one. It might consist of two cells merely and these cells were not necessarily dissociated from the rest of the nervous substance. Add to these cells two conductors. Stimulation to the centres would differ much in its effects from similar stimulation applied to the conductors. The latter were not capable of originating energy.

Going on to speak of the question of localization of functions Mr. Horsley referred to the divergence between the English views (those of Jackson and Ferrier) and the continental ones (those of Goltz). He thought the differences might be largely explained by the fact that the English experiments had been made on monkeys and the continental ones on dogs. It was pretty well agreed that the fronto-parietal group of cells contained the motor centres. The smaller cells had sensory functions. The paracentral lobule contained enormous ganglion-cells and was the centre for movements of the leg. The cells in the arm-centre were smaller, and those in the centre for the fingers were smaller still. Mr. Horsley suggested that the size of the cells varied in accordance with the part supplied.

Mr. Horsley then referred to the views of Meric and Schiff respectively. Meric concluded from his experiments that afferent impulses go to a sensory receptive area and from thence to the motor cortical centre. Schiff thinks that afferent impulses go straight to the motor area of the cortex which is therefore sensory as well as motor. He found that section of the posterior column of the spinal cord caused paralysis ("ataxia"). This he (Schiff) thought to be sensory, as it disappeared in standing on a rough floor. Mr. Horsley opposed this view. The symptoms also, he remarked, were those of what (in England) is termed cortical paralysis rather than those of ataxy. Schiff's views, he said, were contrary to the ordinary ones, and, if accepted, would cause us to assume a decussation of sensory fibres high up, *e.g.*, in the tegmentum. Mr. Horsley said he explained Schiff's results as due to a blocking of motor tracts. He had repeated Schiff's experiments with antiseptic precautions. These were not used by Schiff.

When the operation was done antiseptically the incision in the cord healed in a few days. Exudation could not then escape but caused pressure. In his own experiments he found that those two in which antiseptics failed and the wound became septic were the two in which he got results most nearly resembling those obtained by Schiff. The results of the others were much less marked. Another explanation he would suggest was that in making the incision in the cord vessels supplying various parts were necessarily divided.

Mr. Horsley then detailed at some length the method he had adopted to determine the rate of discharge from nerve-centres. He found it to be at the rate of from eight to ten discharges per second. This was the same rate as the muscular movements in ankle-clonus. From this Mr. Horsley suggested a new theory of ankle-clonus. It might, he said, be merely a record of the fundamental rate at which nerve-centres discharge. Muscle, being elastic, simply recorded. The stretching of the muscle irritated the spinal cord and thus started the ankle-clonus. Discharges from the cortex, he said, might be at the rate of ten or twelve per second. But in passing chrough the lower centre (anterior cornu of spinal cord) the latter acted as a transmutor and reduced them to the normal rate. When powerfully irritated the lower centre might become polarized and act simply as a conductor.

The third lecture (December 11th) was opened by discussing the functional nervous disorders of the central nervous system produced by loss of the function of the thyroid gland. The symptoms, remarked the lecturer, followed a degeneration of nerve-centres due to arrested metabolism in the thyroid. They were (1) tremor; (2) paresis; (3) paralysis. The tremor was fine and constant. It was at the rate of from eight to ten per second. After a time it became interrupted and its rate got doubled or trebled. He considered that the tremors were developed in the lowest motor-centres. They might be explained on three different theories, viz., (1) on a theory of perfect automatism, *i.e.*, that the centres automatically discharged themselves at their normal rate of from eight to ten per second; (2) on the theory that, nutrition being depressed, any irritation might cause a centre to discharge itself at its normal rate; (3) on the theory that the defect of nutrition fell first on the inhibitory centres. Mr. Horsley said his own view was that depressed function of the centre caused it to react to stimuli which would have no effect upon it in health. The stimulus, he said, must not be great or the tremors would stop. They ceased on voluntary movement. The next stage was paresis. The extensors were first affected and the fore-paw (hand) was semi-flexed as in (human) paralysis agitans. He used the term paresis, as the paralysis was not complete. The animal moved when offered food. Semi-rigidity (contractures) then came on, but this did not resemble the rigidity following lesions of the cortex, as it only made the movements of the animal slow. Finally paralysis ensued. The attacks were unilateral in character and much resembled hemiplegia in man. After a while, the animals began to improve—especially with warmth—and in a few hours (five or six) the symptoms would pass completely away. As the symptoms were due to depressed nutrition of the nerve-centres, we should not expect epileptic seizures to follow removal of the thyroid, and as a matter of fact they did not. They might occur in the first few days after operation but not afterward. The cortex was "played out."

Mr. Horsley then went on to speak of experimental epilepsy and the effects produced by removal of the pituitary body. The epileptic spasms experimentally produced in animals are, he said, very short in duration, and much less marked than those occurring in man. After removal of the pituitary body, however (which he had successfully effected in two dogs by trephining the base of the skull through the mouth), the cortex apparently became hyper-excitable, and true, well-marked epilepsy could be produced by excitation. Mr. Horsley referred to a work published by Wenzel in 1810, in which the latter stated that in every one of twenty fatal cases of epilepsy, he had found disease of the pituitary body after death.

Mr. Horsley's lectures have not yet appeared in this country, and I have given the above brief account of them from notes taken at the time. The two concluding lectures will be delivered next week. These will scarcely be of equal interest to practitioners with the three already given. Mr. Horsley proposes to take up the subject of canine chorea—a disease, he remarks, which is very common in dogs—and will endeavor to show from the pathological changes found in the spinal cord that it is really disseminated sclerosis.

ARTIFICIAL ALIMENTATION IN CASES OF VOMITING FROM PREGNANCY.

To the Editor of The Medical Record.

Sir: I was much gratified to see in The Record of December 12th, an account of a cure by Brünniche—by the introduction in the œsophageal tube of liquid food, as milk, powdered beef, etc.—of a pregnant woman suffering from uncontrollable vomiting. Except this case, reported this year, I have never known of any case of this sort successfully treated by the œsophageal sound (*gavage*)

but one reported by myself in a series of articles on superalimentation, artificial alimentation, etc., published in the *New York Medical Journal*, April 19th and 26th, and May 10, 1884. This was a case so desperate that the patient would have died from inanition without the treatment employed, unless, indeed, premature labor had been induced. These cases possess all the more interest, because Dr. Debove, whose experience in artificial alimentation has been very extensive—much greater probably than that of any other physician—and who by his sound has contributed greatly to its practicability, informed me, in the summer of 1884, that he had not found it of use in the inanition of pregnancy resulting from vomiting, although he had, as his published cases show, used it with great success in hysterical anorexia and vomiting.

According to Debove, there is no relation between the appetite of patients and their digestive faculties. The food introduced into the stomach artificially may be tolerated and digested, no matter how sensitive the pharynx may be. The substances employed by me in the case referred to were the powder of beef, the yolk of eggs, and milk.

If carefully studied and employed, I believe alimentation with Debove's stomach-tube will be found efficacious in some cases of vomiting of pregnancy where all other means fail.

Respectfully yours,

H. B. MILLARD, M.D.

4 EAST FORTY-FIRST STREET, NEW YORK, December 18, 1885.

WHAT IS THE REMEDY FOR THE MEDICAL CHARITY ABUSE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: THE command in your editorial of November 28th, to forever hold our peace, if we do not now speak, in case we hold views contrary to those outlined with regard to medical charity and the Charity Organization Society of your city, is heard. This demand to speak, and the fear that the opportunity will forever be gone unless we speak before the declaration, "What God hath joined," etc., I venture to give my views.

Public charity abuse is fast increasing all over the country, and will increase the faster as the public find out there are these places where they can get medical skill, which is said to be the best, for nothing.

The solicitation of funds, Hospital Sundays, etc., advertise the scheme, and only add to the applications. The only reason they are not twice as numerous, is because clinic privileges are not better known.

Many of us in the country, who go down to learn of you, know well how you work, hastening to close your business in the morning to fill your chairs in these places in the afternoon. We envy you the eminence you attain, but are thankful we do not have to work so hard. We try to emulate your policy in founding institutions, but pray to be delivered from your embarrassments. For the consequence we have no one to blame but ourselves when these things come about, and we should be willing to see ourselves as others see us.

What then! The medical profession has assumed the wrong status in its relation to public charities, and in so doing presents an enigma to the public mind which is always a puzzle, and which few can solve and understand. Duty calls the doctor to a share of the charity work, but the rest of mankind observe their vigorous appetites for this peculiar diet with complacency. They cannot and do not claim to do their work for charity's sake. What they suppose to be an elegant system has created an evil at which they are now appalled.

Queries are admissible here. Is it possible that 150,000 or 175,000 persons were *fed* free in New York City last year? (There are a thousand hungry to one needing professional care.) Were there as many persons in all the other walks of life who gave one-third of their time to charitable work without remuneration? Is there as much money spent in clothing, feeding, housing, and warming the needy as is here represented in time and labor at reasonable rates, as is exhibited in charity work by the doctor? All the other necessities of life are met, after a closer investigation as to facts, and the dispenser is held accountable.

So long as the members of the profession stand about the doors of these institutions soliciting a place for themselves, so long charity business will grow. This policy not only exists in the great cities, but all over the country. It founds medical colleges, and the professors receive about the same pay, and the clinics in them are on the same basis, and doctors are made chiefly to organize more clinics. The relation to the sick (the chronically sick especially) is thus made an embarrassing one. Such a relation is not independent or dignified to the physician, for the patient, *if posted*, holds him at a disadvantage. His fees in the country are held to the price of the railroad fare to the nearest clinic, where he knows they will take him in at little or no cost. This is degrading to the business!

The physician outside of these institutions represent to those suggesting to go to free clinics that they are for the pauper, where experiments are made for the benefit of students; they use you for students' practice, they give you half attention, etc., which they find not true when they go there.

Ostensibly these are for the benefit of the poor, the student, the professor, and the growth of the art, and under this policy the competition among the clinics is very great, and it is only the older doctors who venture to question persons who do not seem to belong there. I have known men, "living on their money," to go a great distance and get gratuitous advice from the best of the staff, and I have seen teachers of classes pay patients to allow examinations by students. We go down and sit at the feet of the professors, and go where they have provided the most material and built up the largest clinics, and in this way the growth of the art is promoted and extended; but this is expensive to a proper relation of the sick to the healer.

The Charity Organization in its detective work, by twice the labor that physicians perform in attending the patient, may be able to sift out a few in the cities, but the delay and the expense involved render detection, even in the cities, extremely doubtful; while among those from the country it is almost impossible to make it effectual, especially where it is so easy to hide and go from one clinic to another; taking also into consideration the nature of this detective, the quality of the person necessarily employed to do the hunting, his standing between the claimant of charity and the "rich doctor," and the source from which he must get his pay therefor, and also the difficulty of fixing a scale upon which applicants would be entitled to the aid, makes the work expected of them doubtful of accomplishment.

While the inducement to cross the campus is so great, and severity cannot be used when they attempt it, and the party they wish to see stands beckoning them, the guards will have a hard time of it.

Under the rulings of the Code the only road to fame, the only way to be known, is to belong to an institution with others, with a board of trustees, a yearly catalogue, and an annual commencement, or banquet, with the aspirant's name included in the list.

The remedy? Provision should be made by which we could found hospitals on private enterprise, which now is impossible, except in rare instances. The exigencies demand it (charity hospitals, with paying and non-paying patients together, saying nothing of the many other bad influences, are not the things), and the standard of excellence would continuously be raised by the improvement.

The business requirements should be allowed to take its place upon a commercial basis, and be governed by its laws. It is by unnatural edicts that it is prevented from taking the course that its requirements demand,

and the progress of the times indicate. Specialism has been alike retarded, and is still so, by thus hampering it. The world's history is full of examples of one generation dictating to the next what is right and what is dignity. The floods come and the house does not stand.

It is fast growing that the division of labor is but a forerunner of this other aid to the proper treatment of disease. Such institutions will naturally be in specialties, and they will be centres of large fields of practice, and the query is, in what way can they be made known. Is there no dignified method of doing this?

The undignified part of advertising is bragging, the mention of special qualifications, advantages had, present or former positions, special attainments, relationships, publishing cures, etc. These are all undignified, out of taste, and should be discountenanced; but the simple announcement of one's business, the place of its transaction, when truthfully told, is it beneath the dignity of any lawful business or profession? If thus proscribed, the ethics of advertising would be as well defined as at present, and a clean line of demarcation could be held. The methods of first-class literary institutions are good models. It seems to me that such a policy would but add dignity to the art, for if handsome buildings and costly appurtenances give dignity to the educational profession, why would it not to the medical? When the members of the medical profession confine their hospital work to the institutions built by charity funds, when they sit there to dispense to the most of its inmates for nothing, they are losing the opportunity, to say the least, of a fair exhibit to the world of the value and importance of their work. In our relation to the quack institution at present, we prevent the development of the law of survival of the fittest by chaining ourselves, and allowing the environment wholly to the least fit.

Should we allow this scope to the development of the business and the art, the charity institution would stand where the poor-house now stands, and the irregular would be superseded.

I write this with no invidious spirit. I labor within the pale of the Code and conform to its dictates and rulings, but not without feeling that there is injustice done to the true relation of the profession to the public, by the declaration of principles which, considering the necessities of the advanced methods of treating disease and the modern methods of doing business, are behind the times and retard the development of the art.

Expediencies must supersede manners and customs and old ethics.

Respectfully submitted, E. H. H.

Iowa, December, 1885.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 20, 1885, to December 26, 1885.

Fryer, B. E., Major and Surgeon. Sick leave extended six months on Surgeon's certificate of disability. S. O. 292, A. G. O., December 21, 1885.

Vickery R. S., Major and Surgeon. Relieved from duty in Department of the Columbia, to repair to Washington, D.C., and report in person to Surgeon-General, for duty in connection with Army and Navy Hospital, Hot Springs, Ark. S. O. 293, A. G. O., December 22, 1885.

Reed, W., Captain and Assistant Surgeon. Leave extended one month. S. O. 293, A. G. O., December 22, 1885.

To Disguise the Odor of Iodoform Krieger makes use of the ethereal oil of sassafras. The addition of a few drops, he says, suffices to remove entirely the offensive odor, substituting therefor a fresh and agreeable aroma.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 26, 1885:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
December 26, 1885	5	24	40	3	9	95	4	0
Deaths.								
December 26, 1885	0	7	12	3	1	43	2	0

A Florida physician the other day conceived the impression that some one was peeping through the keyhole of his office door. He investigated with a syringeful of pepper sauce. In about half an hour afterward he found his wife with her left eye covered with a bandage, so great was the pain of an injury which she had received from a chip which flew up and hit the organ, while she was splitting kindling-wood.

Another faux pas of the Telephone.—"Hello, doctor!" "Hello! Mrs. Elcho." "Clara grows better, and her baby is quite well." At this point the girl at the central office cuts off the doctor and turns on a veterinary surgeon, who is giving the order to his assistant to "Give 'er a bran mash, and have the groom rub 'er down."

Luminous trees are reported to be growing in a valley near Tuscarora, Nev. At certain seasons the foliage gives out sufficient light to enable any one near at hand to read small print, while the luminous general effect may be perceived some miles distant. The phenomenon is attributed to parasites.

A Little Cheeky.—Toward the decline of the cholera epidemic in Sicily, a man named Dr. Riforgiato came to Palermo from Catania, asserting that he had an unfailing remedy for the disease. His assertion found credence among the people, and they carried him in triumph to the town-hall and demanded that he should at once be put in charge of the cholera hospital. When this modest request was refused by the authorities, the people became excited and created such a disturbance that it was found necessary to call out the military to restore order.

Mountain and Sea-air.—Highly nervous persons, the victims of hypochondria, those suffering from excessive brain-work—above all, those in whom these conditions are found in conjunction—should not, as a general rule, be advised to try the sea-side. A quiet inland locality, or some mountainous spot of moderate elevation, will be found to suit their cases better. The monotonous aspect of the sea and the ceaseless beat of its waves are mentally depressing, while the highly strung neurotic patient is irritated instead of braced by the stimulating effects of the sea-air. Those who are just recovering from a serious illness, such as pneumonia or typhoid fever, should not be sent prematurely to the sea-side, as an accession of febrile symptoms is frequently the untoward result. An inland locality is more suitable during early convalescence; but, later on, nothing conduces more to complete cure than a resort to the sea-side. The marvellously restorative effects of sea-air in cases of slight general debility, in persons of strumous habit, and in those with family predisposition to phthisis, are well understood, and must not be regarded as being in any degree impugned by the opinions expressed in the present article.—*British Medical Journal.*

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 2 NEW YORK, JANUARY 9, 1886 Whole No. 792

Original Articles.

PRESENT STATUS OF THE PNEUMATIC TREATMENT OF RESPIRATORY DISEASES.[1]

BY E. DARWIN HUDSON, JR., M.D.,

PROFESSOR OF DISEASES OF THE CHEST AND GENERAL MEDICINE IN THE NEW YORK POLYCLINIC, PHYSICIAN TO BELLEVUE AND ST. ELIZABETH HOSPITALS.

THE introduction to the medical profession of the pneumatic cabinet, or pneumatic differentiator, of Mr. Joseph *Ketchum* has created a renewed interest in the entire question of the value of compressed and rarefied air as *therapeutic* agents. The fact that Professor Bowditch, of Boston, and the late Professor Armor, of Brooklyn, had consented to stand in an advisory relation, or as sponsors, to those having its construction and use in charge, afforded a guarantee that it was a scientific apparatus, constructed to fulfil the recognized principles of pneumatic treatment. And the detailed and favorable reports of Drs. Williams,[2] V. Y. Bowditch,[3] Boughton,[4] and Jensen [5] have already established the claim of the cabinet and method of employing it to careful consideration and trial.

The subject is one which has occupied the medical mind periodically for nearly a century. As far back as 1800 the Royal Society of Haarlem [6] proposed as a subject for competition "The Influence of Condensed Air on Animal and Vegetable Life." Nothing of value was elicited. Again, Sir John Sinclair, following observations upon lower animals, suggested the application of condensed air to the treatment of human disease. But the great treatise of Laennec, in 1819, makes no mention of pneumatic treatment. In 1835 M. Junod [6] made the first authentic experiments as to the influence of compressed air on the human body. Majendie and his colleagues reported adversely upon M. Junod's conclusions, but at a subsequent period the French Academy, with full appreciation, reversed its verdict, and awarded M. Junod a medal of honor. Attention became fixed as to the significance of pneumatic therapeutics. Efforts were made, as expressed by Ramadge,[7] at "establishing the normal relation between inspiration and expiration." Ramadge's tubes are pictured and described in his translation of Laennec. Definite treatment by immersion of patients in reservoirs of compressed or rarefied air was conducted from 1850 to 1857 by Tabarié,[8] Bertin,[9] of Montpellier, Pravaz [10] and Millet,[10] of Lyons, and A. Simpson.[11]

Tabarié's spheres were of iron, and would hold from one to twelve persons. He advised sittings of two hours duration, with an increased pressure of from one-half to two-thirds of an atmosphere. A course of thirty to forty sittings was advised for radical cure.

Bertin pursued similar methods, employing, as did Pravaz and others, the spheres of Tabarié. He reported the cure of fifteen cases of uncomplicated emphysema, and of ninety-two cases of nervous and catarrhal asthma, with associated emphysema. Sixty-seven are reported as cured, twenty-two as benefited, and three as unsuccessful. Air-chambers, cumbrous, expensive, and not portable, were thus far used.

I. Hauke,[1] of Vienna, is said to have first devised available portable apparatus for therapeutic uses, and to have led Waldenburg to give his attention to the subject.

Waldenburg devised the apparatus now bearing his name, and accumulated physical data and clinical observations enabling him to formulate a system of pneumatic therapeutics.[2] He devised a simple and portable apparatus for condensing and rarefying air, without delay, for consecutive or alternating use at the same sitting. It has been well compared, by Dr. J. H. Emerson,[3] as to appearance and principle, to the storage vats for illuminating gas. One cylinder, with an open end downward immersed in water, within a second and larger clyinder. By means of lateral uprights, with cords, pulleys, and graduated weights, the upper cylinder may at will be lowered and raised, and its contained air either condensed or rarefied. Tubing and a mouth-piece complete the apparatus.

In determining the indications for pneumatic treatment in different thoracic diseases, Waldenburg was largely guided by the causes of dyspnœa, whether the product of inspiratory or expiratory obstruction, or both. He concluded that in emphysema retarded expiration is alone the cause of dyspnœa; that in stenosis of the upper air-passages, and in most forms of bronchial catarrh, including submucous thickenings and bronchial distortions, inspiration alone is interfered with. In phthisis he regarded inspiration as chiefly obstructed; expiration also, but to a lesser degree.

For the above conditions he employed and rarefied air in accordance with his conception of the chest dynamics as related to the pneumatic forces at his command.

His methods may be briefly summarized as follows: 1, The inspiration of condensed air; 2, the expiration into condensed air; 3, the inspiration of rarefied air; 4, the expiration into rarefied air. The second method, expiration into condensed air, was found impractical; the third, inspiration of rarefied air, was found of doubtful value and often attended with danger. The first and fourth methods, viz., inspiration of condensed air, and expiration into rarefied air, alone were announced to be of value. The inhalation of condensed air was regarded as the method indicated in all cases of stenosis of the upper air-passages, in contraction of air-passages, obstruction, occlusion, or collapse of terminal tubes and air-sacs; the expiration into rarefied air was demonstrated the correct method indicated for the treatment and radical cure of emphysema.

Concerning the latter method, the subsequent testimony of very many observers is cumulative and enthusiastic. The testimony as to benefit from pneumatic treatment in chronic bronchial catarrh, caseous phthisis, chronic interstitial pneumonia, contracted chests from pleuritic adhesions and pleuritic thickening, is less unanimous.

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[1] *Read at meeting* of Section of Practice of Medicine of the New York Academy of Medicine, December 15, 1885, as a part of discussion of Mr. Joseph Ketchum's paper on The Physics of Pneumatic Differentiation.

[2] H. F. Williams: Antiseptic Treatment of Pulmonary Diseases by Means of Pneumatic Differentiation, New York MEDICAL RECORD, January 17, 1885. Pneumatic Differentiation, New York Medical Journal, October 5, 1885.

[3] Boston Medical and Surgical Journal, July 16, 1885, and Journal of American Medical Association, August 1, 1885.

[4] Journal of American Medical Association, November 7, 1885.

[5] Walshe: On Diseases of Lungs, p. 332. London edition, 1871.

[6] Mémoires de l'Academie des Sciences, Août, 1835.

[7] Translation of Laennec on Médiate Auscultation, p. 862. London, 1846.

[8] See Walshe, p. 333. London edition, 1871.

[9] Bertin: Du Bain d'Air Comprimé.

[10] Pravaz: Emploi Medicale d'Air Comprimé. 1880.

[11] A. Simpson: Compressed Air as a Therapeutic Agent. 1857.

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[1] Ein Apparat zur Künstlichan Respiration und dessen anwendung zu Heilzwecken. Wein, 1870.

[2] Berlin Klin. Wochenschrift, pp. 39, 40. Waldenburg-Hirschwald: Die Pneumatic Behandlung der Respirations und Circulations Krankheiten. Berlin, 1875.

[3] Ziemssen, vol. v., p. 400. New York 1875.

The introduction of a cabinet like that of Ketchum and Williams, which enables the patient to combine inhalations of atmospheric air, heated air, and medicated at the barometric pressure of air as ordinarily inhaled, with diminution of atmospheric pressure on the thoracic walls and peripheral circulation of the entire body, will help to solve the many unsettled problems of pneumo-therapy. This cabinet is, then, the most complete yet offered to scientists and the medical profession for testing the clearly-formulated principles of pneumatic-therapeutics given to us by Waldenburg. Dr. Mitchell Bruce[1] has well said: "Air stands in a dual relation to the economy as a definite compound of certain gases, and as an atmosphere with a certain pressure." The apparatus of Waldenburg, approaching the mouth only in inspiration or expiration with a column of condensed or rarefied air, did two things: 1, Afforded either an increased or diminished supply of oxygen; 2, produced increased or diminished pressure on the interior of the air-passages and pulmonary vesiculi.

The cabinet of Ketchum and Williams does all this, and further, removes pressure from the peripheral circulation of the entire body, inducing determination of blood away from internal viscera to the surface, drawing the chest-wall outward, increasing its capacity. This being done at the same time that the inspiration of atmospheric air (relatively condensed air) dilates the bronchi and vesicles, and compresses their vascular channels, the promise of increased chest capacity, and reopening of contracted tubes and collapsed alveoli is very great. How far this is desirable, safe, and curative, only cumulative testimony can determine. To this purpose the wisest precautions have been taken by the projectors of the cabinet and its method of use as to the disposition of the cabinet, entrusting it only to safe hands, and for use in suitable cases after a discriminating diagnosis. The cabinet of Ketchum and its method of use have been thus described by Houghton:[2] "The cabinet is an air-tight chamber, in which the patient sits or reclines, breathing from the outside through a flexible tube. We exhaust a small portion of the air about him, causing a deep, easy, and pleasant inhalation, filling every part of the lungs with the air or spray, producing a stronger and more regular circulation, bringing the blood into complete relation with the oxygen of the air, and introducing the medication in every recess with ease. We have now simply aided the patient to take a deeper breath than he otherwise could. We can then either produce a compression of air about the body, compelling an evacuation of the lungs, and repeat the former movement, or we can continue the rarefied condition and let the patient expel the air by his own effort. In this latter way we produce the same effect upon the lungs that a dumb-bell does upon the muscles of the arm, for the effect is to exhale and not to inhale. We thus have such complete control over the movements of respiration that we can increase or diminish the force, frequency, and depth of each breath at our pleasure, and without the slightest effort or discomfort on the part of the patient." It should be clearly understood that the departure in atmospheric pressure for therapeutic purposes, both for condensed and rarefied air, is quite within the limits of safety, even for the most delicate structures of diseased organs.

It must be remembered that Waldenburg's methods propose but an increase of from $\frac{1}{80}$ to $\frac{1}{40}$ of an atmosphere for condensed air, and diminution of a fraction of an atmosphere for rarefied air. The Ketchum cabinet proposes only a fall of $\frac{1}{10}$ to 1 inch of barometrical pressure, or a minimum rarefaction of $\frac{1}{300}$ and a maximum of $\frac{1}{30}$ of an atmosphere. The observations of Dr. A. H. Smith in the study of the Caisson Disease[3] demonstrated that, with an increase as great as fifteen to twenty pounds to the inch, no bad symptoms followed, either from the long immersion in the condensed air of the caisson, or from the sudden transitions to and from the external air. Not until a pressure of forty or fifty pounds more superadded were the brain and cord engorged, or the possible introductions of nitrogen into the blood effected.

Vivenot employed as high as $\frac{3}{4}$ of an atmosphere. Flint[1] mentions beneficial treatment by one, and even as high as five atmospheres. Bartholow favors a chamber with $1\frac{1}{2}$ or 2 atmospheres. The phenomena following an initial inhalation of condensed air, as stated by Bruce, are "pallor of skin and mucous membranes, sensation of pain in ears, diminished frequency of respiration, but the act becomes easier; enlargement of lungs, increase of vital capacity, as shown by the spirometer; depression of the cardiac force, and diminution in size and force of pulse, and rise of temperature." Frequent exposures to condensed air increase the bodily strength. These results are attained: first, by increased supply of oxygen; second, by increased pressure.

As to the beneficial influence on the heart, Niemeyer may be cited. He says that inhalation of compressed air is "the most efficacious of all dietetic remedies, in the widest sense of the word."[2] The pulse, under the influence of compressed air, is reduced from 12 to 15 in the minute. Rosenthal[3] compares compressed air to digitalis in small doses, in its effect on the heart, and advises its use in mitral and aortic lesions. Not only does compressed air strengthen the circulation, but it equalizes the two circulations, increasing tension within the left ventricle, lessening tension in the right. Pressure is transferred from the venous to the arterial channels. Oxygen gives better blood, digestion is improved, and strength is the result.

Compressed air can be administered with uniformity of pressure, and for sittings of sufficient duration to be valuable, only by use of a cabinet. The compressed-air cabinets formerly constructed had necessitated the application of the same pressure on the exterior of the body, and on the interior of the air-passages.

The new cabinet reverses this order, by subjecting the periphery of the body to rarefied air, but admitting atmospheric air by a tube to the mouth and air-passages—a relatively dense air. It therefore fulfils all the requirements for the pneumatic treatment of phthisis, of local and diffused infiltrations, collapse of vesicles, constrictions, and catarrhal tumefactions of bronchial mucous membranes.

It has been suggested that the Ketchum cabinet is not adapted for the treatment of emphysema. The latter disease, it has been thought, demands: first, inspiration of positively condensed air, *i.e.*, a requisite amount of oxygen to aerate the blood within a lessened volume of inspired air; and second, expiration into a column or volume of rarefied air, producing a suction, or "pneumatic aspiration,"[4] of the residual air, and thus progressive collapse of dilated emphysematous vesicles and spaces.

Trial of the cabinet already has demonstrated its usefulness in many cases of emphysema. Its gymnastic exercise of pulmonary elastic tissue, as described by Houghton, would warrant the expectation of its usefulness in this disease. One of the questions which this most valuable apparatus may help to solve is the superiority of pneumatic artificial methods above simple methodical chest expansion. In the treatment of poorly-developed, weak chests, of pleuritic thickenings and adhesions, of bronchial warping and contraction, of chronic bronchial catarrh, and of the various stages and forms of early and late phthisis, systematic efforts at voluntary chest expansion are most efficacious. The ordinary increase of chest measurement in quiet breathing is but a half-inch to an inch. Yet by forced effort an increase of two or three inches can at once be secured. So, too, in normal quiet respirations twenty-six cubic inches of air are inspired, yet double, treble, nay, six or seven times that amount, may be drawn into the chest by

[1] Quain's Dict., p. 18. [2] Op. cit.
[3] Effects of High Atmospheric Pressure, etc., 1876.

[1] Practice of Medicine, p. 69. Ed. 1881. [2] P. 89, "Vol." Ed. N. Y., 1874.
[3] Ziemssen, vol. vi., p. 170. [4] Chew Pebber, vol iii., Emphysema.

forced breathing. Tubes are distended, air-sacs ordinarily inactive or feebly expanded are brought into fullest action, increased oxygenation is produced, blood is more fully vivified, and heart and circulation stimulated; strength results, and a general improvement of nutrition. Even with pronounced serum of the pleura, bronchi, or pulmonary parenchyma, this result can be attained. The phthisical chest, by means of systematic chest expansion, especially after the method formulated and so long used by Leaming,[1] results, after a very brief time, in a progressive increase of circumference of chest, of two to three inches and more, and often a re-development of both normal vital capacity and full respiratory motion, with consequent health. If, added to such methodical expansion, treatment by inhalation of condensed air or medicated vapors be employed, in spray, as the balsams or other astringents are employed, still further curative results have followed. The mechanism of this natural method is in accord with the principles and purposes of the artificial method—the employment of cabinets and condensers. That the cabinet of Mr. Ketchum may prove even more efficacious where it can be made available, I am willing to believe.

Many other therapeutic problems may be solved by the Ketchum cabinet. The withdrawal of peripheral pressure favors elimination by the skin; it also relieves venous engorgement and vascular tension in the kidneys and liver, and permits the depurative functions of those organs to be resumed—functions so often vitiated by interstitial deposit, induced by the obstructive changes in circulation within heart and lungs, or, in common with them, the product of a rheumatic or gouty bile.

THE PHYSICS OF PNEUMATIC DIFFERENTIATION.[2]

By JOSEPH KETCHUM,

BROOKLYN, N. Y.

In the spring of 1883 the author was invited by Dr. Herbert F. Williams, of Brooklyn, N. Y., to investigate the existing devices and methods for inhalation. He remarked, "If only some sure method of topical application to diseased lungs could be made, it would be a great stride in the treatment of pulmonary disease." By a thorough investigation of known methods, and an analysis of their defects, I arrived at the following conclusions: The range of theory *must* be in the field of Pneumohydrodynamics. The vehicle must be air—the only medium tolerated by the lungs. Physical forces must be employed to control and bring into relation physiological law and anatomical conditions. The agent must not only be conveyed to, but surely deposited in, the desired locality.

A study of the anatomy of the organs of respiration and their muscular environment, together with the physiology of respiration observed from a philosophical standpoint, presented the following inevitable considerations.

The obstacles presented were: First, relatively high temperature of the lungs compared with that of inspired air. Second, resistance due to bronchial friction. Third, remoteness of the regions usually affected from the larger bronchi. Fourth, the normal limitation of respiratory energy to merely partial collapse of the lungs, and the usual impairment of that energy in disease.

In considering any method of overcoming, and perhaps utilizing, these recognized conditions, the following limits present themselves:

1. The burden of moisture or vapor with which air may be charged.
2. The tensile strength of diseased pulmonary tissue.
3. The interference with other physiological phenomena.
4. The latent muscular strength of the subject.

Now, what is the value of the obstacles noted?

First, as to relative temperature, with the barometer at 30 inches. Air inspired at 70° F. has a tension of .733 while at 90° F., which is approximately the temperature at expiration, its tension has been increased to 1.410; this difference in the tension of the aqueous vapor indicates the increase in its hygrometric capacity; or, in other words, its capacity for water has been increased in the above proportion; consequently a constant process of evaporation from the aerating surface is going on, which, according to the researches of Valentin (Dalton, p. 235), is 8,100 grains, or about 1¼ pound avoirdupois daily. It is therefore clear that, with any method applied under natural conditions, respiratory air charged with moisture at a temperature below that of the lungs, not only retains its moisture during the complete act, but acquires an additional quantity by evaporation from the pulmonary surface, in exact proportion as the pulmonary temperature is imparted to the inspired air.

By what artificial aid can this process of evaporation be not only checked, but the natural process be reversed, and the air be compelled to deposit instead of acquire moisture when within the lungs?

The two conditions hostile to the deposit of moisture are the contrasted temperatures, and their variations of aqueous tension.

The former is beyond control; for no artifice can safely invade the lungs to sufficiently reduce their temperature. We can, however, compel condensation, by inter-pulmonary compression, to an extent that will not only counteract the increase of tension, but will leave a margin sufficient to effect this condensation. If a lung is surrounded by an atmosphere equal to a barometric height of twenty-nine inches, while its interior is exposed to one of thirty inches, a differential pressure equal to one-thirtieth of an atmosphere is exerted against the walls; and to effect expiration this pressure must not only be overcome, but muscular or other force must be exerted sufficiently to overcome its inertia, as well as the capillary and bronchial friction heretofore referred to as the second obstacle.

Manometric tests show that in respiration, under the circumstances stated, the expiratory effort is equal to a difference of 4.5 inches of the manometer, and that a pressure five and a half times as great as that at which air enters, is necessary to dislodge it. This increase in pressure reduces the carrying capacity, or hygrometric condition, and is equivalent to a reduction of temperature, and a resulting condensation of the vapor from the air respired.

Second. The usual remoteness of lesions from the larger bronchi.

The usual remoteness of lesions from the larger bronchi is observed, and the connection between the cause and effect springs into prominence. Having demonstrated that wherever saturated air penetrates, its physical properties can be so changed that condensation ensues it only remains to prove that these localities are penetrated by saturated air, and the topical application is demonstrated. Spirometric tests show that, while tranquil inspiration amounts to from fourteen to eighteen cubic inches, the initial inspiration, aided by the differentiation of the breathing and the surrounding atmospheres, amounts to from twenty-eight to forty cubic inches, dependent upon the differentiation; and this excess over tranquil respiration must penetrate to regions only partly used, or entirely disused, in ordinary respiration. Boyle's law (that gases at a given temperature occupy space inversely to their pressure) will not account for this difference of forty or fifty per cent., even though we had no other means of verification; but auscultation, under these differential circumstances, in the regions above noted, shows that air is entering and circulating with a freedom that demonstrates the penetration to these regions of the increased volume of air.

Third. The limitation of respiratory energy with its

[1] Leaming: Diseases of Respiratory Organs. New York: Bermingham, 1883.

[2] Read before the Section of Practice of Medicine of the New York Academy of Medicine, December 15, 1885.

impairment by disease, is overcome by supplying the force denied, for without sufficient expiratory force condensation cannot be effected; but expiration is effected to a greater or less extent, depending on the subject, or the differential force employed, and to exactly that extent is condensation produced.

Having presented the obstacles, and the means by which they may be removed or used as favorable factors, let us determine the limits within which they may be applied.

First. Of prime importance is the limit of humidity with which we can burden our only means of transportation to lobule and vesicle; and this limit is reached when the respiratory column of air is charged with not only all the moisture that the surrounding barometric and thermometric conditions will permit, but also all that can be imposed on it in a state of high mechanical subdivision.

Second. Next in importance is the limit of tensile strength of diseased pulmonary tissue; and here is met the same responsibility which is assumed by the physician or surgeon in every operative procedure, or the employment of any muscular force. The same judgment which gauges the force of forceps traction or estimates the proper amplitude of forcible flexion of an anchylosed joint, must guide him in the application of this force to the lung tissue. The method is exceptionally secure, however, in that the force at command is subject to voluntary graduations, ranging from the delicate influence which determines the depth of the fish in its element, to the enormous energy which in a surface-blast of dynamite rends the rock before the atmospheric inertia is overcome.

We are free from the errors of judgment sometimes accompanying operative procedure, where muscular effort may be miscalculated.

The pneumatic force is indicated by gauges which are a constant reminder of the force employed.

Third. Interference with physiological phenomena. Here we meet the first question in which philosophical theory does not furnish exact data, and knowing that any interference with the equilibrium of the respired atmosphere must exert a direct influence on the circulation, and through it on its source of energy, the heart, we are driven to the domain of experiment to determine how far we may safely resort to such interference. Exhaustive investigation made by Drs. Tiegel and De Watteville, of New York, and reported by the former in an article published in the *Journal of the American Medical Association* of November 28, 1885, definitely shows how far this interference can be carried, and under what conditions it is indicated or contra-indicated.

Fourth. The normal limitation of respiratory energy requires only a moment's consideration, for while the amount of condensation produced by the patient's effort is limited by his expiratory power, the slightest thought shows that the same power that filled and dilated his lungs may be brought to bear in collapsing them, by the reversal of the process, and by mechanical means succeed when nature impaired by disease fails. To deny this is to question both the efficacy and appropriateness of the Marshall Hall or Sylvester method of artificial respiration.

I have endeavored to confine the range of invention to its narrowest possible limits, and to make the product fit the necessity. The details of the method and its requirements naturally follow. In order to utilize "air in its greatest vapor-carrying capacity," the influence which renders its weight appreciable must be employed, and the rarefaction of the surrounding atmosphere becomes the essential part of the process. Muscular contraction will in most cases give the physical condition necessary to condensation, but the process should be armed against the emergency of a failure in this respect; and this renders it imperative that there be incorporated a method of mechanical compression of the surcharged air, which must be sufficient to supply the deficiency of expiratory force on the part of the subject, as well as to overcome the friction and inertia of inspired air.

The instrument constructed to comply with the above requirements is a cabinet of proper size and shape to hold a man in the sitting posture, and rigid enough to withstand the superficial pressure when rarefaction is produced inside; strong enough to stand the jars and jolts of transportation, yet light enough to be taken from office to office, or from doctor to patient. It is made of steel sides, bottom and top fitted to a wrought iron angle frame, with a heavy glass front and a door in the rear, air-tight when closed, but capable of being opened at an instant's notice. In front and below the glass is a projection which sustains the atomizing apparatus and medicine receptacle. In the centre of the glass an aperture is pierced through which the breathing-faucet penetrates far enough into the cabinet to allow a soft rubber breathing-tube to be slipped on. The breathing-faucet is constructed of hard rubber, and is of such shape and design that when in use the condensate collecting in it on the patient's side of the stop-cock flows out through a drip-hole in the latter, while the condensate formed in front flows back into the medicine receptacle and is re-used. At the side of the projection is another stop-cock entering the steel front of the cabinet, used for decreasing the rarity or pressure inside the cabinet without removal of the breathing-tube from the mouth of the patient. In front and immediately over the glass is a manometer gauge connecting with the interior of the cabinet, filled with mercury to the zero point and graduated to $\frac{1}{10}$ inches. On the top or roof is a bellows whose interior capacity is approximately one-thirtieth of the cubic capacity of the cabinet. The interior of the bellows, by a valve in its floor, communicates with the interior of the cabinet. This valve is operated from the inside of the cabinet. The bellows communicates with the outside air by another valve in its upper side operated from the rear of the cabinet. The bellows is operated by a rock-shaft running across the top of the instrument, supported by shaft standards on each side, and to one end of which an operating lever is keyed. The saturation of the air is accomplished by the use of an atomizer and stand operated by compressed air or steam, and of such height as to deliver its spray directly into the mouth of the breathing-faucet.

The method of administration is so simple that, under the general instruction of the physician as to medication, length of time, and amplitude of force as indicated by the gauge, it can and has been satisfactorily used by the invalid's ordinary attendant.

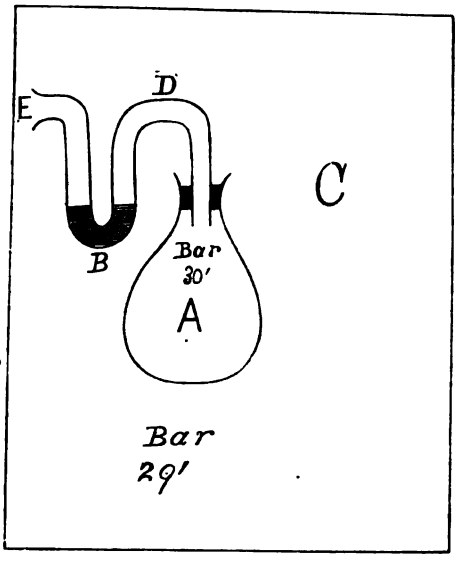
The patient is first instructed in the method of respiring entirely through the mouth, and is told that while the air will flow down into the lungs without any effort, a slight blowing force will be necessary to expel it preparatory to the next inspiration.

He is next told that when the air of the cabinet is rarefied he may experience a slight swelling of the tympani, and to relieve which he is instructed to swallow, thus opening the meatus of the Eustachian canal, and allowing sufficient of the air enclosed to flow into the throat to produce equilibrium with the surrounding atmosphere. He is next seated in the cabinet on a chair adjustable for height, and raised or lowered until his mouth is on a plane of slightly higher elevation than the opening in the glass front, and a clamp is placed on the external nares to prevent the escape of air by that channel. The door is now closed, the valve-rods having previously been placed to indicate that the valves are set to produce rarefaction; the operator passes to the front of the instrument and, having closed the breathing and auxiliary faucet, with his eye on the gauge, moves the lever operating the bellows toward the rear with a slow, even motion, until the difference between the levels in the two arms of the manometer indicates a rarefaction of, say, from one and a half to two inches.

The object of this procedure, before beginning the treatment proper, is to expand the residual air in the lungs, and if any has been imprisoned behind mucus, or catarrhal plugs, or infarctions, to exert a pushing influence from behind and toward larger bronchi, and produce

ultimate evacuation. This is demonstrated by the following experiment:

The gas-flask A is fitted with the bent, open-ended tube D, in the curve of which a small quantity of colored glycerine, or other fluid, is introduced; this remains at the bottom of the curve B only so long as the pressure



on the flask side is equal to that on the open side, E. Now, if the atmospheric conditions are so changed that the atmosphere in C is rarefied to the extent of, say, one inch of the manometer, then a pressure is exerted on the fluid B by the air in the flask A, in its effort to restore equilibrium, which will drive it out of the mouth of the tube at E. Supposing the flask A represent the air occluded, B the infarction, and D the connecting bronchus, trachea and mouth, and the application is evident.

The rarefaction is now allowed to run down by the use of the auxiliary faucet until the manometer indicates the amount deemed proper by the attending physician, and the spray having been adjusted to the breathing-faucet and turned on, the patient is instructed to take the breathing-tube and place the mouth-piece with which the end is fitted in his mouth, in front of and against his teeth, enclosing the rim with his lips to prevent displacement by the interior pressure. The stop-cock is slowly turned on. Nature asserts herself, and the inflation of the cheeks and rise of the thoracic envelope indicate that the restraint first offered by the stop-cock is now offered by the cell-walls, and the same influence that is distending the cheeks so markedly is distending the alveolar walls.

This first inspiration has distended every cell and avenue, and the process of diffusion with the air charged with vapor of the medicament proceeds with a rapidity commensurate with its enlarged avenue of approach, and the act of expiration commences. This is brought about by the patient's forced muscular expiratory effort, and the pressure of the cell-walls on the loaded air reduces its hygrometric condition to a point where condensation is effected exactly in proportion to the energy of the effort, minus the effect of the increased temperature. Subsequent respiration is no greater in amplitude than normal, except in so far as the feeling of inflation may induce a greater expiratory effort; but after a time the patient becomes fatigued, notwithstanding frequent rests (during which he respires the air in the cabinet), and the expiratory act becomes labored. The door is now opened and the valves, inside and out, are set for vibration of the enclosed atmosphere synchronously with the respiratory act from plus to minus, the weight of the outside air. In other words, the top valve is closed and the bottom one opened wide. The door is again closed and the breathing-faucet is opened, and with the lever the bellows is raised until it has reached an elevation equal to one-half its height, and the patient is instructed to again place the tube in his mouth and make his first act one of inspiration. At the same time the operator raises the bellows to its full height and holds it during the interval preceding the expiration. Then, allowing it to descend to the midway point, he forces it to complete collapse, thus compressing the air to the extent of one-half the contents of the bellows, and by this compression forcing the collapse of the thoracic walls and consequent compression and condensation. This method continues, if used as a pulmonary calisthenic, or as a "means of topical application of remedial agents," until in the judgment of the operator the dose or exercise is deemed sufficient. The influence of compressed air surrounding the patient while he is breathing at normal density, of course exerts its influence in a contrary direction, except in relation to condensation, where the outflow of air is retarded by the constricted condition of the glottis during expiration (Dalton, p. 233). This anatomical verification of the conclusion arrived at, independently, by logical deductions from the action of the manometer in estimating the dynamic value of expiratory energy, is as welcome as it is conclusive.

The question of the diffusion of gases relates to the subjects at hand only so far as it applies to the interchange of the same gas under different physical conditions, viz: their relative humidities. In a normal tranquil respiration the amount of diffusion of wet residual air into comparatively dry tidal air, and in a given time, depends upon the size of the avenue through which such diffusion must take place; the relationship in volumes between the tidal and residual air being as 1 to 10, or 20 to 200 cubic inches (Carpenter, p. 300, ed. 1885).

Now, if the volume of tidal air be increased to 40 cubic inches by aid of differentiation, a corresponding dilatation of the cell structure is effected and the avenue through which the diffusion takes place is correspondingly enlarged. The relationship of volumes has now been changed and is 1 to 5, or 40 to 200 cubic inches, and a greater amount of diffusion in the interval between inspiration and expiration is accomplished.

Under the last-named circumstances the physical conditions have been reversed, and instead of 200 cubic inches of residual air diffusing its moisture into 20 cubic inches of comparatively dry tidal air, we have 40 cubic inches of tidal air diffusing into the residual air the moisture with which it has been burdened.

The increase in osmosis of O and CO is apparent, but must be investigated by the physiologist rather than the physicist.

The use of differentiation of the respiring and surrounding atmosphere has been likened in effect to the use of compressed air of the same relative density. In the condensed air method, of which the Waldenburg apparatus is perhaps the best example, the forcible expansion of inter-pulmonary tissue is effected by the exhibition of pressure from without, aimed at it from in front, and maintained during the entire act, or only during inspiration, and is exerted in direct and limited lines of force. This energy tends in no way to assist inspiration, but is simply forced into the air avenues whose remote end is closed, and whose enclosing space is already occupied by the residual air. The pressure is also equal in all parts of the lung, the thin septa of cell-walls bearing the same strain as the comparatively strong walls of the bronchi. The use of air under pressure of course reduces its ability to carry moisture, and denies us the use of the agency of pressure to effect condensation. The method employed in the differential scheme as applied, the use to which the compressed air apparatus is limited, is exactly the reverse.

In the pneumatic cabinet the dilatation is produced by the physical enlargement of the thorax and abdominal area, the recession of the diaphragm into the abdominal region, and the proportionate enlargement of each cell toward the occupancy of the enlarged thoracic cavity. Each cell and avenue, in obedience to physical law, is

now inviting new air to enter with an energy limited to its structural environment, and controlled by the tensile strength of its individual wall. One can hardly confound the force radiating from each point of superficial surface away from the centre, to that which radiates from the centre toward each point of interior surface, and which must always be limited to the tensile strength of the weakest cell-wall.

By the compressed air method the tidal air is forced first into the larger bronchi, where meeting the residual air, its force is first felt and the bronchi are correspondingly enlarged, when they in their turn aid the pressure in condensing that in the bronchioles and alveoli; but long before this point is reached and the pulmonary atmosphere is equalized, the capacity of the thorax in its position at expiration is occupied, and the energy of the compressed air is devoted to the elevation of the thoracic envelope and the depression of its floor. During the process of equalization the forced expiration takes place, combatting the pressure of the gasometer and losing the benefit of a proportion of the elasticity of the normal air by its condensation, and limited by its rigid surroundings. By the time expiration is finished equalization has taken place, and the volume of air under pressure is circumscribed on one side by the iron walls of the gasometer, opposed on the other by the thin septa of inter-cellular tissue. In the differential method the rarefaction of the surrounding air places the thorax in the position of forced inspiration. Each alveolus, bronchiole, and bronchus is expanded to a degree dependent upon the structural strength of the part. The residual air is expanded, and each atom separated from its neighbor invites a new-comer from the tidal air to occupy the space made vacant by their separation.

Expiration commences, and now, without the removal of the initial pressure, the strain on the inter-pulmonary walls is modified by the enormous elasticity of the respiring atmosphere, confined only by space itself.

The personal equation of the subject is important, for while one will involuntarily close the throat against a stream of air projected *at it*, however gently it may be done, and an effort of will is required to effect inspiration, the *aspiratory* influence which *invites* the stream of air of the same force will be accepted without a sign of antagonism.

The cabinet is the merely mechanical expression of a theory. Its scope and applicability can only be known and utilized through investigation and experience. Already it has stimulated physicians to the deeper investigation of pulmonary therapeutic agents. The use of chemically dry air in imitation and elaboration of high altitude and climate, of the introduction of germicidal or nutritive agents to the absorbing surfaces of the lungs, and its possibilities as an agent of resuscitation from traumatic or other coma, are being pushed with evidence of ultimate success.

I have endeavored to avoid the quotation of physical laws as enunciated by such authorities as Gay-Lussac, Regnault, Boyle, Torrecelli, and others, choosing the logical rather than the mathematical method of elucidating the physical aspect of the process.

It would be unjust indeed were I to close without acknowledging my deep obligation to Dr. Herbert F. Williams, my friend, and in all that pertains to the science of anatomy and physiology, my preceptor.

The recent death of Professor Samuel G. Armor deprives me of the opportunity of personally paying to him the tribute due for his active interest, valuable advice, and unwavering support during a year of anxious study and experiment.

Bibliography.—Gray's Anatomy; Dalton's Physiology; Carpenter's Human Physiology; Lieutenant R. S. Williams', U. S. E. C., Hypsometric and Meteorological Tables; Guyot and Plantamour's Tables; Watts' Dictionary of Chemistry; Josiah M. Cook's Philosophy of Chemistry; Ganot's Physics; Dechanel's Physics.

171 Gates Avenue.

THE ÆSTHETIC APPLICATION OF DENTAL ART.[1]

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On different occasions during my period of practice, I have been requested by patients to explain why it is that dentists seem to know so little about art. What can I say more than to confess that I do not know? I have found repeatedly that such a reply does not in any sense afford satisfaction to the inquirer, or tend to extricate me from an embarrassing position, but only serves to push me more deeply into difficulties.

The query in the outset was prompted, probably, by a passing thought, and had they received any convincing reply, their momentary inquisitiveness would have been gratified and the subject dropped then and there.

But, perceiving my inability to give any reason why a profession so entirely made up of artistic requirements, should have no facilities for cultivating an æsthetic taste in the dental colleges, their curiosity naturally became aroused, and I regretted that I allowed them to see that the question was too much for me.

And can we wonder greatly that such questions meet us, when we reflect that one of the two greater branches of dentistry consists entirely in restoring nature by art?

What is Art? Of all the short words in our language there are but few which are handled more frequently, and that, too, by persons who really have but a faint idea of what those three letters signify. How many of the thousands of sight-seers who visit the galleries of our own and foreign countries, and are thus permitted to look upon the work of celebrated artists, comprehend that the creations before them are the result of the careful study of a lifetime. They are only conscious of the general effect of a work of art, and do not realize what a vast amount of study and labor is required to attain such grand results.

For the sake of illustration, let us for an instant glance at a painting. The artist has presented his work true to life; almost too much so to be pleasant. It has been truly said, that, next to the actual pain experienced in being a party to sorrow is the touching suggestion which a faithful picture communicates.

Wandering over the canvas, our eye first notes the general interest; we remark the excellency of the drawing, the perspective, and the coloring, but soon our attention becomes riveted on the central object, a representation of an old woman, a glance at whose face at once proclaims the *special* motive of the work. The scene is a court of justice, with all of its characteristic stiffness and its unpleasant suggestiveness. Spectators are there with faces full of feeling. The learned lawyers, in powdered wigs, are there true to life, while, in contrast, stands this poorly-dressed woman before the judge who is about to pass sentence of death upon an only son. She is offering a mute appeal—no words of supplication; but the trembling arms and old withered hands outstretched, tears flowing over wrinkled cheeks, the intense agony so plainly depicted on every feature, is an appeal more touching than any eloquence the tongue could have offered. Such a picture commands the attention of every beholder; but how few realize what an immense amount of work it required to reach such a mark of perfection! What an insight into human nature was called for to enable the artist to portray this touching scene! Do they reflect upon the fact that a knowledge of anatomy, physiology, and other studies are required, as well as of colors and their application? Many persons have a faculty of painting a fair representation of the human face upon canvas—they are said to be talented in that respect. But if they expect to approach anywhere in the vicinity of perfection they must be acquainted with the forms of the bones of the head, as well as the muscles and softer tissues. How

[1] Read before the Alumni Association of the Boston Dental College, Boston, October 13, 1885.

can they truthfully give the form of the outside without some knowledge of the framework within?

Now, if this knowledge is indispensable to an artist, why should it not be equally desirable that the mechanical dentist should be conversant with its principles also?

An artist, by making himself intimately acquainted with the human form, and by his perceptiveness, power of imitation, and deftness of hand, can place a representation of it upon canvas. He can counterfeit any feature and bring forward any expression. If his work be sculpture, he does away with deception by placing actual shape before us. The one deceives the eye by light and shade, the other gives us substance, the natural light contributing the appearance by which we distinguish the different forms of objects. With the dentist, the object is the same; but, unlike the former, he has not blank canvas or hard stone to work upon, but has living tissue, on which he can learn to put different expressions. Many will say that expression comes from the mind, and that we have no control over it except in our own features. True, it comes from the mind, but it shows itself upon the face, and different expressions are but the result of the action of different muscles in moving portions of the skin (and underlying tissues) so that a new light strikes upon it; this varying light, with its consequent shade, adds a new aspect to the countenance.

An artist can change the whole expression of a painted face by the addition of a little extra light and shade, and that with but a few strokes of the brush. All he does is to *apparently* raise some portions with light and cause others to recede by rendering them a little darker. If colors will change the countenance by appearing to raise portions, is it not patent that *actually* raising those parts will do it even better. It takes but the slightest change in position of the lips and adjacent parts to make a great change in expression. You will put greater faith in this assertion if you will experiment a little yourselves.

Take a portrait, or better, two, precisely alike. The lithographs such as are exhibited in the street-windows by theatres will answer every purpose. It will be best if we choose a lady's face, as it is with the ladies' features, principally, that we will wish to utilize our knowledge, if it be found worthy of use. It is, we will say, a full face, and one with a pleasant look about the features. Now with a crayon make a short downward mark from each corner of the mouth on one picture only, as we will need the other for comparison; then with your finger-end rub in a little white just under the lower lip, adding a trace of shade to the upper lip in the same manner. What is the result? You have a face the owner of which you would think had not an earthly friend. Now, after erasing what you have added, reverse the order of things by placing the light on the upper, the shade on the lower, and drawing your lines upward from angle of mouth, instead of down, as before, and you will find the result reversed also: for the face is found now to be bright and cheerful. By going a little further, and placing two curved lines from base of nose downward, past corners of mouth, with convexity outward, you have a grin that will often prove contagious. A thin piece of paper placed under the lip on the alveolar ridge will add its quota to the expression.

These changes have been effected by a few marks that would be hardly noticeable anywhere else on the drawing, unless about the eyes. If this can be done on paper, can it not be accomplished, say in part, at least, with the face itself? Of course, it is an entirely different matter when we come to put our theory into practice, as it will require that we educate the eye by long and close observation of nature, and teach the hands to follow its dictates.

The lips, of all the features, are the most direct index to the feelings, and the expression characteristic of every face is due almost entirely to the effect of light and shade about the lips. It is (I believe) because we forget this fact, that we often feel dissatisfied with our work even when the patient expresses pleasure with it. I believe, too, that it is owing to the fact that the profession shows want of knowledge, care, or ability in this respect that we meet with so many faces whose owners wear dentures that are blank, or almost expressionless about the mouth. When we hear such common expressions as a beautiful smile, or eloquent lips, do we ever ask ourselves in what does this beauty or that eloquence consist?

Our course of studies in mechanics is, to the best of my knowledge, perfect as far as it goes; but is it carried out to its greatest extent? For instance, we are told to carefully note the play of the lips over the wax articulation; but *what is it* in the play of the features that we are to study? I can but answer for myself. I was expecting to hear *expression* treated in every detail, and felt disappointed when upon nearing a situation where I felt genuine interest, I found that the points which seemed to me of the utmost importance were passed over with a casual remark or two.

I know when I say this that no one will infer that I am trying to pit my limited knowledge and inexperience against years of practical work of my instructors. Perhaps our teachers expected we students to understand without further instruction. Perhaps my classmates, by superior ability, were enabled to bridge over what seemed to me a break in the most interesting part of our course, or it may be that I am expecting too much of dentistry.

Now, the question is, how to proceed in order to derive any professional benefit from the ideas here suggested. As I regard it, the first requisite is to study nature, and study closely. As far as the human countenance is concerned, no one has more opportunity for observation than the dentist. Our business carries with it a certain license, so that we can examine a patient's features critically without giving offence. Unlimited chances are thus offered, and we can watch every face that we work over, and then we must analyze what we see.

Note the general expression, the fulness of the lips, and the tooth development beneath them. Watch where and how the light strikes the face, and what is the result of different lights upon the same features. If any teeth are absent, note the effect upon the expression. Observe color of hair, eyes, and complexion, and then examine the exact shade of the teeth, also the size and shape of the teeth as compared with size and shape of features, form of head, and general build of body. This can be done by a trained eye, while the patient undergoes the usual examination, without suspecting but that your undivided attention is given to the teeth. Then compare this with the next face that presents itself. If this is to afford any benefit to the practitioner, the observation and comparison must be critical. We are too apt to bestow a casual glance, and forget as soon as the patient is gone, whereas we should memorize or make a note of the most important points.

To make ourselves *masters* of the art of light and shade, we must go even farther than this. *We must cultivate a taste for art.* We subscribe for some one or perhaps all of the dental journals—why not for an art journal as well? We try to keep ourselves posted on all the new ideas in our profession—why not mix up a little art with them?

Suppose that we cannot see at first that it is benefiting our work, we cannot deny that it is refining, as well as affording a pleasant change from an occupation that is in many respects disagreeable. Then when we have leisure we can turn our hands to a little modelling.

If we have a small space in our laboratories, why not utilize it by making a bench in a corner that has a good light, and then investing in a few pounds of artists' clay and one or two modelling tools. By an hour's work and the outlay of a few dollars, we have a way of passing our spare moments that will be novel and instructive. For it is in modelling and casting that the effect of light

and shade is made most manifest. If we have doubts of our ability to reap any benefit from modelling, why not try casting, choosing a friend or a patient's face for a subject? Suppose that we try it in this way, our subject being a person who wears a full denture and with a bare face? First make a mould of the face (wax will answer) with the mouth empty. Then one with the plates in position, and then, after building up with wax in different places on the plates, place them in the mouth and make a third mould. Now to cast with plaster. The wax mould will of necessity be thin, so that it is best before casting to build up around the outside of the mould with sand, so that the weight of the plaster, when soft, will not change the shape. Then if you will tint the water with powdered or dry umber and a little vermilion before you mix the plaster, the latter will more nearly resemble the flesh-color. After casting all three, and allowing the plaster to set, if you will remove the wax from each you will be surprised at the entirely different expression on each face. The question is as to where you will find a person who will submit to so much trifling? I have experimented with many different faces, and thus far they have been so deeply interested in the novelty of the work that I have yet to meet the first complaint. In conclusion, let me say that I believe that if our dental brethren who have never tried this, would do so, they would be surprised and pleased with its effect upon their laboratory work. At first, I became discouraged, and thought that I failed more often than I succeeded; but now, when I look back I find that I have not failed. On the contrary, I have succeeded so far that now I am where I can see what can be accomplished if one is persevering. I am convinced that the study of facial expression has helped me wonderfully, and has given a new impetus to work that before seemed monotonous. One thing in which I think all will agree with me is this; that a little art cannot injure us in any way, even if it is æsthetic.

CAMBRIDGEPORT, MASS., October 13, 1885.

COVERING THE HAND WITH SKIN TRANSPLANTED FROM THE CHEST.

BY ALFRED NORTH, M.D.,

WATERBURY, CT.

MICHAEL S——, aged twenty-six, Irish, a brass-roller. On October 27, 1884, while cleaning the rolls while they were in motion, the ends of the fingers of the left hand were caught and the entire hand drawn in to the wrist. The skin was cut through entirely around the wrist, and below this point was so thoroughly crushed and separated from the subcutaneous tissues that it could be peeled off like a glove. The only portions of skin left attached to the hand were a piece about an inch and a half long by one inch wide, between the thumb and the index finger, and the normal skin covering the end of the thumb to midway between the first and second joints; also there were several irregular areas of the corium or true skin left upon the index and middle fingers. The third and fourth metacarpal bones were fractured about their middle; the first joint of the index and the second joint of the middle finger were opened; the ring-finger beyond the second joint and the entire little finger were crushed and virtually dead; the superficial palmar arch was severed and both ends were spurting.

Examination under ether.—After making a thorough examination under ether I decided to make an effort to save as much of the hand as possible.

Dressing.—Both ends of the palmar arch were secured and ligated. A drainage-tube was passed through the hand between the fractured metacarpal bones. The skin of the hand was carefully replaced and secured to that of the wrist by means of silk sutures, the various fragments being secured to each other in the same way. The hand was then wrapped in absorbent cotton, a board splint was applied to the back of the forearm, extending to the ends of the fingers, and secured by a bandage applied to the forearm. The hand and fingers were lightly secured to this by a cheese-cloth bandage. Hot-water dressings were used as the most favorable for maintaining life in the crushed tissues.

Subsequent history.—On the following day all the skin which had been separated from the hand assumed a leaden hue and lifeless appearance. At the end of twenty-four hours all hope of saving it was abandoned, and poultices were applied to hasten sloughing. At the end of a week it had all *gangrened* and sloughed away, leaving only those portions of healthy skin upon the thumb, index, and middle fingers which have already been enumerated.

November 20th.—To-day the periosteum was separated from the remaining phalanx of the little finger, the bone was disarticulated, and the articular surface of the metacarpal bone was removed with bone-forceps. The granulating flaps were united over the end of the bone by fine silk sutures.

November 25th.—The remaining phalanx of the ring finger was separated and removed in the same manner, but the articular surface of the metacarpal bone was left and the flaps were not stitched.

The second joint of the middle finger was exsected and the ends of the bones drilled and held together by a silver wire.

Appearance of the hand (November 26th).—The little and ring fingers are gone, the middle finger has been shortened by the exsection to about two-thirds of its normal length, the first joint of the index finger is exposed, and the distal extremity of its second phalanx extended and dead. The dead portion was removed with the bone forceps.

The areas of skin now found upon the hand are located as follows: The thumb is covered to the first joint on the palmar surface, to midway between the first and second joints on the dorsal surface, and on the side toward the index finger it extends to the bottom of the cleft, where there is a narrow, granulating surface extending from the palm to the dorsal extremity of the cleft, at which point the skin of the thumb and that of the index finger are joined by a band of skin about one-quarter of an inch in width.

The index finger is covered, excepting its outer surface, and the palmar surface below the second joint. On the dorsal surface the skin extends one-half inch on to the back of the hand, and here sends off the band which joins that of the thumb.

The middle finger is covered on the dorsal surface to the first joint, on the palmar surface to the second joint, and on the sides to about the same extent.

Comparing the amount of skin now found upon the hand with that which existed after the injury, it will be seen not only that the perfect skin left at that time has markedly extended, but that the fragments of corium scattered over the index and middle fingers have developed almost sufficient integument to cover these members.

The index and middle fingers were to-day dressed in a common plaster-of-Paris splint, both for support and to ascertain the effect of pressure upon the exuberant granulations.

November 28th.—The thumb and fingers were gently exercised by passive motion. The plaster dressing so much improved the granulations of the fingers that I decided to try it upon the hand. The hand was lightly dressed in plaster, to be left two days.

Treatment preparatory to grafting (December 19th).—Since last note the treatment has consisted chiefly of the application of twenty grains of nitrate of silver to the ounce, or of the solid stick, with balsam of Peru and light pressure by a cheese-cloth bandage. The hand continues œdematous and the granulations exuberant. To overcome this, a plaster-of-Paris splint was fitted to the front of the forearm and palm of the hand, and secured snugly by a plaster bandage. Under this press-

ure the œdema soon subsided and the surface became healthy.

The thumb and fingers have been forcibly exercised to prevent anchylosis.

The contractions and adhesions have been constantly opposed by stretching, pressure, and occasionally by cutting.

A number of small grafts have been planted about the stumps of the little and ring fingers. These were secured in place by several different methods: 1. By the ordinary method of pressing the graft gently until it is embedded in the granulations, and keeping it in place from three to five days by the pressure of the dressings. 2. By passing a thread through the graft and stretching it to the granulations. 3. By passing a thread through the granulations on either side of the graft and tying the ends over it. 4. By making a small flap of granulation tissue with the scissors, and raising it up and placing the graft under it.

Either one of the last three methods is preferable to the first or original method as taught in the books.

In this way a number of skin centres were planted about the stumps and bases of the index and middle fingers.

I have decided to cover the remainder of the hand with skin transplanted from the breast. With this in view, the arm has been applied to the chest in several different positions, and left in each for twenty-four hours, in order to ascertain the most desirable site for the operation, as well as the most comfortable position for the patient during the after-treatment. This course was pursued until a position was found satisfactory for both.

First plastic operation (December 20th).—The patient was etherized, and the breast shaved and cleansed with a solution of bichloride of mercury of the strength of one to five thousand.

An incision was made through the skin, ten inches in length, commencing at the second sterno-costal joint on the left side, passing downward and to the right half an inch within the right nipple. A similar parallel incision was made two and a half inches to the left of this. The intermediate skin was freed from the deeper tissues, its ends remaining attached.

The free edges of the skin on either side of the flap were dissected up for an inch or more, and approximated as nearly as possible, and held so by two silver-wire sutures passing beneath the flap.

After all bleeding had ceased, the wound was cleansed and the hand placed beneath the band of skin. The edges of the skin at the back of the wrist and at the bases of the thumb and fingers were carefully freed with scissors, so as to approximate the edges of the flap to a newly made surface. The granulations were also shorn from the back of the hand, and the adipose tissue from the flap.

The edges of the flap were then applied to the freed edges of the skin of the wrist and fingers, and secured by harelip pins and silk sutures.

Dressing.—Four layers of iodoformized gauze were placed between the hand and the chest, and also upon the back of the hand. A Stromeyer's cushion supported the arm and forearm from the body. The arm was held firmly in this position by four broad adhesive straps in different positions. The thumb and fingers were drawn gently toward the left shoulder and fixed by small adhesive straps.

A drainage-tube was inserted above, and another below the hand. A pete-bag was placed above the hand, another below it, and a third below the fingers. These were covered by absorbent cotton and a Lister-gauze bandage, which passed about the body and covered the entire arm and hand. Lastly, a plaster-of-Paris dressing was applied, covering all except the hand.

After-treatment.—The after-treatment consisted of the application of a bottle of hot water to the dressings over the back of the hand for the first twenty-four to forty-eight hours, and the frequent irrigation of the wound through the tubes. The temperature did not exceed 101° F.

Dressings removed.—On December 27th, *i.e.*, the seventh day after the operation, the dressings were removed and the hand exposed. Most of the stitches had cut out. They were all removed except a harelip pin at the middle of the wrist, and another through the stump of the little finger, which had not cut. The flap is all alive, and its edges have united at the base of the thumb and at the corresponding point at the wrist, so that the skin is here continuous from the thumb to the forearm.

The deeper surface of the graft has also united to the back of the hand, with the exception of an area about the size of a silver quarter at the ulnar side of the hand, where there is an accumulation of pus. This was reached by a probe from below, evacuated, and a seton passed through. The wound was thoroughly cleansed and new dressings applied.

Second operation (December 29th).—The graft on the back of the hand is doing as well as I could desire, but the patient is suffering markedly from confinement and the shock of the last operation, which renders it important to complete the work and free the hand from the chest as early as possible, so that he may get out of doors. In view of this I concluded to free one end of the graft at once.

No ether was given. The temperature was 99.5° F., before the operation.

The original incisions were extended upward, making the right edge of the flap three and a half inches, and the left edge two and a half inches long.

These were connected by a transverse incision, after which it was separated from the breast.

The fatty tissue was shorn from it. The palm of the hand was turned upward and the granulations thoroughly removed with scissors. The flap was then applied to the palm and stitched in place.

The edges of the skin of the chest wound just made were freed and slid forward, and secured so by silver and silk sutures and adhesive straps.

Dressing.—The hand was so placed as to rest upon the band of skin below it, somewhat as in a sling, hoping that union in this region might be secured by this means. The dressing in all other respects was the same as after the first operation, except that the forearm was made to rest upon a kind of plaster-of-Paris shelf, lined with absorbent cotton. Temperature, 100.5° F. after the operation.

Third operation (January 3, 1885).—Patient is losing strength and perspires profusely. Condition of both patient and hand is at a standstill. I determined to free the lower flap at once, and separate the hand from the body. The second operation was only partially successful. The proximal one-half to two-thirds of the flap has lived and united to the hand. The remainder is dead, though not separated.

Ether was administered. The original incisions were extended downward, making the flap four inches long, after which it was separated from the body. The fatty tissue was removed with scissors, and the granulations of the hand shorn off as before. The flap was then adjusted and secured in place by sutures.

The dressing consisted of iodoformized gauze, absorbent cotton, and a Lister-gauze bandage. A bottle of hot water was applied to the dressings over the palm for forty-eight hours.

The edges of the skin of the lower half of the chest wound were freed for two inches on each side, approximated as nearly as possible, and secured in place by sutures and adhesive straps. In this way the extremities of the chest wound were closed for about two inches, and the intermediate portion reduced to less than two inches in width.

Chest (January 12th).—Since last note the temperature has ranged from 99° to 100° F., with a correspond-

ing pulse. The sutures have all been removed from the breast. The wound is dressed on alternate days by removing the adhesive straps, cleansing, cauterizing the exuberant granulations, and applying new straps. Although the edges retract considerably when the dressings are removed, yet after new straps are applied they are not separated more than one to two inches.

Hand.—Upon the hand about one-third of the end of the first flap and two-thirds of the second have died and separated, leaving the central portion of the palm bare.

For several days the skin has been stretched around the hand by adhesive straps dove-tailing across the palm, the object being to secure the greatest degree of approximation of those portions of the skin remaining upon the palm.

January 20th.—Patient now walks to and from the office. The skin is still stretched across the palm by means of adhesive straps. The chest wound heals rapidly and is still dressed with straps.

The skin on the back of the hand is now continuous from the forearm to the fingers. The central third of the palm, with a few small areas on the fingers, is still granulating. There is a strong tendency to contraction in the deeper tissues of the palm and fingers, drawing the thumb toward the palm and strongly flexing the fingers. A daily effort is made to overcome this tendency by passive motion and forcible extension.

February 4th.—The contraction of the palmar tissues tends to produce so great deformity of the thumb and fingers that it has been determined to make another attempt to cover the palm with transplanted skin. At first it seemed advisable to do this by dissecting a flap from patient's breast, leaving one end attached and applying this to the palm in such a manner as to make the reflection at the roots of the fingers; then, when union had taken place, to separate it from the body, including enough tissue to be utilized in covering the flexor surfaces of the fingers. But after carefully taking into consideration both the patient's condition and that of the hand, I decided to transplant the graft *en masse* from his brother, and thus be enabled to keep the fingers under daily observation and training.

Accordingly both were placed side by side upon a table and etherized. First I relieved the strong flexion of the index finger and adduction of the thumb by making a deep V-shaped incision with the angle toward the palm, one arm terminating in the cleft between the index and middle fingers, and the other between the index finger and the thumb. The index finger could then be sufficiently extended and the thumb partially abducted. The tissues were cicatricial to the full depth of the incisions.

Second, the granulations were carefully shorn from the palm and all bleeding arrested.

Third, a graft an inch and a half long and one inch wide was taken from the brother's side, all adipose tissue shorn off, and applied to the palm, the four corners being secured each by a suture.

Dressing.—The V-incision was sprinkled with iodoform and filled with sponge. A sponge was applied over the transplanted graft, and the hand enclosed in a cheese-cloth bandage. A hot-water rubber bag was applied to the palm and no splint used.

February 5th.—The dressing caused so much pain that the bandage was removed, and it was found that the skin on the back of the hand would not safely bear any degree of pressure.

May 25th.—The graft transplanted from the brother died. Since last note the treatment has been confined to passive motion, forcible extension, stretching and breaking up adhesions, and the training afforded by splints and adhesive straps. In spite of all this the thumb at this date was drawn well into the palm of the hand. Commencing on the flexor surface of the thumb, midway between the first and second joints, and cutting from side to side, I made seven parallel incisions, one-eighth to one-fourth of an inch apart, and extending as deep as the flexor tendon, which was exposed but not cut. The thumb was then extended as far as it was safe to do, and secured in this position to a dorsal splint extending along the forearm. The tissue cut was thoroughly cicatricial. The incisions were all filled with purified sponge.

June 18th.—The thumb has been decidedly improved by the last operation. The sponges did admirably. The entire space included in the incisions was transformed into a granulating surface to which small grafts were applied. To-day three such incisions were made at the base of the index finger, which was then extended and secured in position in the same manner, the incisions again being filled with sponges. The middle finger resists all orthopedic efforts, and persistently tends to the ulnar side of the hand. The first and third joints are anchylosed and the middle joint is a flail-joint since the exsection.

June 29th.—As the index finger is again becoming strongly flexed, and as the middle finger is hopelessly useless, I decided to utilize the latter in freeing the former. Accordingly I made a deep incision across the palm from the cleft between the index and middle fingers to the cleft between the index and the thumb. I then split the middle finger down to the bone on the palmar surface, removed the entire bone to the meta-carpo-phalangeal joint, and applied the remaining tissue across the base of the index finger to fill the incision already made, stitching it in place. Other parallel incisions were made across the index finger, and also across the palm—six in all; also five parallel longitudinal incisions in the palm, extending from the upper of the transverse cuts toward the wrist. These latter were for the purpose of opening out the palm, which was considerably drawn in. A sponge was inserted into the disarticulated joint cavity, and also into each of the cuts.

The index finger was then extended and secured to a dorsal splint, which had previously been secured to the forearm. The thumb was extended and secured in like manner, and the dressing completed by sponge-pressure to the palm.

July 1st.—Temperature 99°. The bandage was removed, and, as far as could be seen without removing the sponges, everything seemed to be doing well.

July 2d.—Temperature normal. The sponge covering the palm was raised and the flap found to be alive and doing well. Moderate passive motion of both thumb and index finger is made daily.

July 4th.—The flap has united by first intention. There is a plaster splint applied to the forearm with a rubber band, attached both front and back, for the purpose of applying elastic extension to the thumb.

July 27th.—The hand has greatly improved since the last operation. There is considerable power of voluntary motion in the thumb and finger, and they can now be made to touch. The constant extension of the index finger has stretched the flap at its base so that now it extends well up on the finger. A splint extends along the dorsal surface of the thumb, and another along the back of the index finger. To these the thumb and finger are secured to overcome the tendency to flexion.

September 9th.—The entire hand is now healed. The thumb is strongly drawn toward the palm. The thumb and finger can be made to touch, but only coarse objects can be picked up.

The patient has to-day resumed work.

Deductions.—In my judgment this case illustrates the following points:

1. The importance of temporary dressings previous to operating, for the purpose of ascertaining the position most favorable for the operation and at the same time most comfortable to the patient.

2. The necessity of determining what form of dressing shall be used before operating.

3. The value of large skin grafts in saving members

and rendering them useful, when otherwise they must be sacrificed or become useless.

4. The time saved in the healing process, the greater part of the hand in this case being covered with healthy skin in two weeks.

5. The advantage of transplanting large grafts, before separating them from the body, over transplanting *en masse*.

6. That the most successful method of transplanting small grafts is either by stitching them in place or by raising a flap of granulations and placing them under it.

7. The benefit of pressure in reducing redundant granulations.

8. The value of multiple incisions in overcoming cicatricial contractions, the credit of which, so far as I know, belongs to Dr. Alfred Post, of New York.

9. The advantage of the sponge in stimulating the growth of granulations and rapidly filling up and healing such incisions.

Were I performing a similar operation again, I should free both ends of the flap from the chest at the same time, thus completing the entire work in two operations. I believe my success would have been better in this case if the work had been completed at the second operation and the ends of the flaps made to support and nourish each other.

The only other case of this kind, so far as I am informed, is one of Dr. W. T. Bull, of New York, which was done in 1884, but to my knowledge has not been published yet.

The great advantage of this method over the old method by many small grafts, is well illustrated by the following cases:

In 1879 Dr. W. T. Bull covered the leg and outer part of the thigh with new skin, by means of small grafts. Twelve hundred grafts were used, and the time occupied was six months.

In a case of loss of the entire scalp, Dr. W. L. Bradley, of New Haven, commenced the use of small grafts on December 1, 1873, and by September 22, 1875, had renewed the scalp, using 795 grafts in all.

Dr. W. Symington Brown, of Stoneham, Mass., also replaced the scalp by means of small grafts. He commenced in 1873, used 2,600 grafts, and completed his work in 1876, three years after the injury.

Dr. Bartlett—deceased—of Waterbury, also replaced the scalp by means of small grafts, the process occupying considerable time, but I am unable to say just how long.

On the other hand, in the cases of entire loss of the skin of the hand, these members were covered with healthy skin transplanted from the chest in the course of two to three weeks.

COMBINED EXTERNAL AND INTERNAL URETHROTOMY.—We have received a reprint from the *British Medical Journal* of a paper read before the Lancashire and Cheshire Branch of the British Medical Association, by Mr. Reginald Harrison, who opposes strongly the operation of internal urethrotomy, urging that the most serious consequences may, and often do, result from the stagnation of urine in the wound. The portion of urethra involved in the wound is necessarily paralyzed, and is therefore prevented from expelling the urine, which remains to stagnate and undergo absorption in part. To obviate this difficulty, in cases in which the stricture is seated in the scrotal or pendulous portion of the canal, Mr. Harrison combines the external with the internal operation. He states that he has never seen a rigor or the development of urinary fever after this combined operation. The external urethrotomy, which he performs in order to give vent to the urine and keep it from coming in contact with the urethal wound, is properly described as a perineal puncture, only large enough to admit the passage of a drainage-tube into the bladder. The operation has given most satisfactory results, and will, the author believes, remove most of the danger incident to internal urethrotomy as usually performed.

SYMPATHETIC DISEASES OF THE EYE.

BY C. A. BUCKLIN, M.D.,

NEW YORK.

UNDER the above title I wish to call attention to some facts of the greatest possible importance. Having been brought so frequently face to face with this horrible condition known as sympathetic disease, I shudder when I think that the sad fate of the patient is too frequently the result of a failure of some family practitioner or too positive specialist to recognize the intricate nature of the trouble, or the hidden danger which is lurking under a calm exterior.

They fail to fully explain the danger which may follow in time, and complete blindness is the result.

The time required from the injury until the other eye is destroyed varies from a few weeks to forty years. It is impossible to consider in detail the subject of sympathetic diseases of the eye in the limited space a general medical journal can devote to the subject.

The entanglement of a ciliary nerve in a scar, or any other constant source of irritation existing in an eye, as chronic inflammation, calcareous deposit, foreign bodies, scars resulting from a wound. A cataract which is overripe, and has become calcareous, may cause the destruction of the eye, the fellow eye, or both eyes.

I desire to present such illustrative cases as will cause the careful to think, and the careless beware. I present the facts as they exist, not with an intention to criticise, but with a pure desire to do the greatest good.

CASE I.—Mrs. B——, aged fifty. In May the right side of the face was covered with an eruption which followed an attack of malaria. The eruption caused a severe burning and itching sensation of the entire right side of the face, which later became covered with a yellow crust. The line of division, however, between the crust-covered right side of the face and the healthy left side, was very sharp. At this stage she consulted a physician, who diagnosed the case as an acute eczema, and treated it as such for three months, when one of the pustules appeared upon the cornea, it ulcerated, the cornea perforated, the iris became extensively attached to the perforation, the eye was lost, and in three months more the other eye was affected with sympathetic disease.

The sharp line of division between the affected and healthy side of the face should have attracted the attention of the physician at once, and caused him to recognize the trouble as a neurosis (herpes zoster).

This case illustrates the importance of recognizing and treating properly neurosis of the fifth nerve. Failure to make a correct diagnosis in this case made a blind woman, when correct diagnosis would have led to a favorable termination of the disease.

CASE II.—Mr. M——, aged thirty-three, was chipping cast-iron in 1865 when a piece of iron or chisel struck him on the margin of the cornea. It made a simple, clean wound of the cornea, through which the margin of the iris prolapsed. The eye at the time I saw it looked exactly as if Critchett's operation for displacing the pupil had been carefully performed by a skilled operator—he retained fair vision in the injured eye. He consulted his family physician and several specialists of this city, each and every one of whom were enthusiastic in their explanation of the patient's great good luck in having a sharp piece of iron strike the eye and do so little damage.

The general verdict was, "It is a very fortunate accident; the eye is all right."

Let us now observe the consequences, and see how unfortunate the accident was, and how fortunate it would have been for the patient had the eye been so mutilated that its immediate removal would have been necessary.

All attempts to use his eyes for any length of time fatigued him. His business called him upon the water. In 1873, eight years after the accident, he began to see dark clouds pass over the water, or he would observe a

tremulous or undulating appearance of the water which none of his companions could see. It was three months after he first saw these dark shadows before he saw them again.

The periods became more frequent. Within one year from the appearance of the dark shadows the eye which was not injured was totally blind, and only sufficient vision remained in the injured eye to enable him to read large print with difficulty. No one had considered the injury serious, and no one had warned him of the possibility of the other eye being lost by sympathy.

The operation of Critchett for displacing the pupil has in many instances brought about the same sad consequences years after the patient has passed beyond the observation of the surgeon.

Case III.—Mr. M——, struck in 1859 upon the retina by a sharp piece of steel, which perforated the eye but did not enter the ball. It glanced off. The choroid prolapsed through the wound, and at the time of examination looked like a black pin-head on the whole retina under the conjunctiva.

To show that there is a possibility of every one being mistaken about the consequences which may follow such a simple accident, I casually mention the fact that he repeatedly consulted our most respected authorities on ophthalmology about the black speck on his eye. They assured him that it was a matter not worthy of attention.

In 1873, fifteen years after the accident, his eyes began to tire easily. He began to see smoke in the atmosphere, the vision would periodically become obscure, at last the acuteness of vision became permanently obscured.

All efforts to use the eyes produced an immediate sensation of fatigue, and were disagreeable to him.

He was sent to me by an optician to see if glasses would remedy the trouble.

Upon observing the choroidal hernia I suspected a ciliary nerve was implicated. I cut down by way of experiment and cut the hernia off as close to the wound as possible, from which I freed it as thoroughly as I could. The patient at this time had $\frac{4}{10}$ of normal vision.

The strange feature of the case, which surprised me as much as it will any of my readers, is that in eight days the vision increased to $\frac{9}{10}$ of normal vision, and all unpleasant symptoms had disappeared. Those who propose to open the eye to introduce magnets or transfix the choroid with needles, should remember that this case illustrates the possibility of doing a damage which may, fifteen years later, cause both eyes to be lost, although the original object for which the magnet or needles were introduced was well accomplished and successful. Such patients cannot be too thoroughly warned as to the possibility of danger years afterward, and the symptoms which indicate its approach, as fatigue, mist, dark shadows, flashes of light, etc.

Case IV. illustrates an example of the careful specialist, who is thoroughly aware of the danger, while treating a child on the *expectant* plan. The child has a herpes of the cornea, which sloughs with a large prolapse of the iris in the wound. This is followed by cyclitis, for which she is being treated, and the other eye is being kept under observation. The mother is told to bring the child back in four weeks, as the cyclitis in the injured eye has quieted down. In six weeks she returns with the child, and imagine the mental chill which must pass over one when he looks into the *uninjured* eye and sees delicate cyclitic membranes stretching entirely across the field of vision. It is too late to enucleate the offending eye—the child is blind.

There was no warning in the shape of a complaint from the child. There was no decided injection of the eye to attract the attention of the mother or physician.

Specialists are frequently deterred from doing their duty by the outside pressure of parents, friends, physicians, and dishonest or sometimes ignorant "eye-doctors," who are willing to give a favorable prognosis on no other grounds than a desire to please the family.

I believe that in children upon whom we cannot rely for early information regarding symptoms in the other eye, it is the duty of the specialist to strongly advise the removal of every eye which decidedly endangers the fellow eye.

Case V.—Mr. R——, at twenty years of age, cataract found in one eye, from unknown cause. At fifty, sympathetic irritation appeared in other eye in the form of flashes of light. Enucleation of offending eye arrested further development of disease in uninjured eye. The lens was calcareous, and calcareous deposits were thickly distributed through the ciliary body. There were evidences of an old cyclitis, with extensive detachment of the retina. The cyclitis, not being traumatic, was evidently specific.

Case VI.—Mr. L——, struck in the eye with a cow-horn during boyhood. At the age of sixty, the other eye, which has behaved well during this time, is affected sympathetically, the development of which affection is announced by dark shadows followed by flashes of light and entire loss of the uninjured eye. Cyclitis and calcareous deposits are found in the injured eye.

The last two cases bring us to a practical point regarding cataract extractions.

How often has the following rule been laid down to students of ophthalmology?

Never remove a cataract before it is ripe—meaning as long as fingers can be distinguished. Never remove a cataract from an eye when it is plain that no visual improvement can be attained, unless the patient desires it done for cosmetic purposes.

Never remove a cataract as long as there is good vision in the other eye.

In all cases of cataract, except the congenital variety, the crystalline lens is undergoing progressive atrophy—the vitreous is becoming fluid, and the intra-ocular blood-vessels are becoming weak. Calcareous deposits are sure to form in the hypermature cataract.

Is it not better to disregard all these rules and remove the diseased lens from the eye at such time as it can be removed with the greatest safety to the patient? A calcareous lens is a dangerous thing to have in an eye, and also a very dangerous lens to remove by the usual method of opening the capsule, the calcareous débris being liable to fall into the eye during the evacuation of the lens. I have seen both eyes totally lost within ten weeks after such an accident. The operated eye was destroyed by cyclitis, and the eye not operated upon was destroyed by sympathetic disease. If it can be seen that a lens is filled with calcareous deposits and it is to be removed, it is better to remove it in its capsule entire. The removal of the lens in its capsule is a dangerous operation under the most favorable circumstances, and still more liable to cause loss of the vitreous, and intraocular hemorrhage in cases where the lens has remained in the eye till it is filled with calcareous deposits. Having waited till the lens is in this state one is between two fires, and it is impossible to judge which is the more dangerous, the chance of dropping calcareous deposits in the eye by the ordinary method of extraction, or the chance of causing intraocular hemorrhage, or cyclitis, by the violence done the eye in attempting to remove the lens in its capsule. I prefer to remove the lens as soon as they cannot count fingers at a greater distance than two feet. In the majority of cases this avoids all serious complications. The lens comes out easily. There are no calcareous deposits in it. The vitreous and intra-ocular vessels are in a healthier state than they ever will be at any subsequent time. When I see some specialist of experience who is willing to have the lens and capsule torn from his own eye, I shall believe that this method of removing the lens in its capsule has one enthusiastic and honest advocate. I never will do an operation on a patient's eye that I would not ask a colleague to perform on my eye if I were the patient.

In iritis we sometimes see a nodular appearance of

the surface of the iris; this is due to circumscribed portions of the iris being so scaled down that local cavities are formed in which fluid accumulates and lifts the iris, forming an elevated nodule, of which there may be several. Such eyes, as visual organs, are of no value; they are almost sure to set up sympathetic disease in the other eye, the only preventive measure against which is enucleation. If the family do not indorse this operation let some kind-hearted colleague take the case and also the responsibility. Iridectomy in these cases is too uncertain to be encouraged.

When the entire margin of the pupil is fast to the lens, or cornea, iridectomy is usually all that will be required to make the offending eye safe. Having illustrated what may happen to those who do not appreciate the dangers which may arise from sympathetic disease, we will mention two cases which illustrate what the over-zealous specialists do occasionally.

Mrs. C——, aged fifty, has acute syphilis; right eye develops plastic iritis, with multiple adhesions of the margin of the iris. Four months later simple plastic iritis breaks out in the left eye. She visits two of our city eye institutions. The pupil of the last affected eye dilates readily under atropine, with one marginal attachment of the pupil to the iris. The disease of the second eye is called sympathetic. Enucleation of the right eye is most urgently insisted upon at both institutions.

I freely confess that I am not so bold as to advise the removal of an eye that still has a good visual field, because plastic iritis has b oken out in the fellow-eye without any premonitory symptoms.

The syphilitic eruption being in a most flourishing condition, is it not more judicious to call the iritis of the second eye a specific iritis, and to treat it as such energetically, rather than enucleate one eye before you are sure which eye will turn out to be the better, and before you are sure that the enucleation of the eye will not have a disastrous effect upon the fellow-eye, which is already in an irritable and dangerous condition?

It must also be remembered that such eyes, as a rule, do very well without enucleation.

Mr. R——, aged twenty-five, had specific iritis of one eye, which caused extensive pupillary attachments of the iris to the lens. The pupil appeared blocked with a mass of exudation. Several weeks later the second eye was attacked with plastic iritis. The advice given by several specialists was to enucleate at once. He was treated for syphilis and iritis. At the end of four months the eye with which he could read was the one the enucleation of which had been strongly advised.

A single adhesion of the iris to the lens is more dangerous than two or more adhesions so situated that the movement of the iris is limited; such eyes are only to be operated upon when sympathetic irritation appears in the fellow-eye, or the attachment of the iris to the lens becomes complete and water-tight. This can only be determined by the iris appearing "crater-shaped," thus proving that fluids can no longer escape into the anterior chamber.

Adhesions of the iris to corneal wounds are more liable to be followed by sympathetic trouble than adhesions of the iris to the lens.

BLOOD-LETTING EXTRAORDINARY.—M. Thevenau, of Nivernais, according to the *Revue Médicale*, had under his care the wife of a sheriff named Gignault, twenty-four years old, whom he bled, in the course of nine months, from September, 1726, to June, 1727, 3,904 times. The woman still lived, and was bled 651 times more in the next six weeks. Bleeding, it appears, was the only means of giving the woman relief, and it was accordingly practised most industriously for three and a quarter years, the number at the expiration of that period reaching the very respectable figure of 26,230. It is not stated why the phlebotomy was discontinued at this time, but possibly the patient died.

Progress of Medical Science.

BROMIDE OF CAMPHOR.—This drug was first introduced into the field of practice in 1871, and possesses, in spite of its comparative youth, an ample literature, of which we will only refer to the most recent and therapeutically important works (*The Therapeutic Gazette*, November 16, 1885). Not long ago Valenti y Vivo called attention to the physiological antagonism existing between the monobromide of camphor and strychnine, a fact which has a toxicological value. Lienhart contested the hypnotic virtue of the drug which Hammond upheld. The latter physician cited a case of delirium tremens in which he employed this remedy. After the eighth dose, Hammond says, the patient slept for four hours. After awaking he obtained the remedy again, and after six doses he slept for six hours. Warren, of New York, as long as ten years ago used the bromide of camphor with good results in typhoid fever, and declared that it exercised an actual influence over temperature and circulation. Petrowitz employed the drug in numerous cases of hysteria, chorea, cardiac palpitations, and nocturnal erections with satisfactory results. He mentions the case of a medical student suffering from nocturnal erections and following pollutions, who was treated with bromide of potassium without success, but was promptly relieved by bromide of camphor. Gubler claimed to have obtained remarkable sedative effects with capsules of bromide of camphor in genital excitation, and especially in blennorrhagic priapism. Camphor, says this author, does not ordinarily traverse the kidneys, but in the form of the monobromide it can be made to do so. Marm employed the drug in mental diseases, and more recently Hammond in hysteria, in doses of two to three grains given every two hours after the paroxysm. In the latter affection it is especially suitable when ether and chloroform are contraindicated. Nothnagel and Rossbach recommended the remedy against nervous excitation of the cardiac and genital systems. Fonssagrives, reviewing the various therapeutic uses of the drug, calls it an antispasmodic, an anaphrodisiac, and a general nervous sedative. Rolland and Mills furnish further testimony to the useful services of the drug in affections of the nervous system. Quite recently it has also been tried in chorea with promising results.

ETIOLOGY OF FLOATING KIDNEY.—It is a well-known fact that movable kidney is found with greatest frequency in multiparæ, and the explanation usually given is that it is due to laxity of the abdominal parietes. But this does not account for the fact that the organ displaced is usually the right one. In the *Revue Bibliographique des Sciences Médicales* of October 31, 1885, Dr. Eugène Martel puts forth the theory that the displacement is caused by the movements of the fœtus in utero. At the end of the fourth, or during the fifth month, the fundus uteri reaches the lower border of the kidneys, and as the organ is usually inclined to the right, it is the kidney of this side that is pressed against. It is at this time, also, that the movements of the lower extremities of the fœtus begin, and as the left occipito-iliac position is the most common one, the right kidney is in position to receive frequent blows from the knees and feet of the child. Dr. Martel states that he has found movable kidney in several instances shortly after a pregnancy during which the fetal movements were especially active.

DERMATITIS EXFOLIATIVA IN THE ADULT.—Dr. Funk relates a case of generalized dermatitis in a woman after childbirth. The eruption had all the characters of eczema: papules and pustules, isolated and in groups. Here and there were bullæ of varying size, containing micrococci arranged in small chains. The case recalled in its general characteristics those of dermatitis exfoliativa neonatorum reported by Ritter.—*Revue Bibliographique des Sciences Médicales*, No. 22, 1885.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 9, 1886.

THE QUESTION OF GOVERNMENT PATRONAGE FOR MEDICAL INVESTIGATION.

AN unexpected aspect of the present public interest in the investigations of Pasteur is the awakening of the people to the fact that in this country there might be wider opportunities for profound study of physiology and the workings of disease.

Two great requisites are needful—time and money. That the hydrophobic virus has required two years for its elaboration, gives some inkling that art is long and time is fleeting. It is seldom that the medical scientist has both time and money at his command. The student with a strong bias toward investigating the deep problems of life, and who would gladly shut himself up in a laboratory to attempt their solution, finds himself obliged, after graduation, to go out into the world to win his bread. The process soon dispossesses him of his original enthusiasm; he grows rusty on his once favorite themes, and others more commonplace come in to absorb him. He looks after Mrs. Smith's rheumatism, and takes an interest in Brown's baby, as, rotating through the orbit of childhood, it encounters the diseases peculiar to each succeeding phase, while humanity at large suffers because the grand discoveries which at first beckoned on their Columbus remain still a part of the great unknown.

Americans are peculiarly adapted to become investigators in physiology and the art of healing. Untrammelled by traditions, with their quick perception and power of invention, with their readiness to absorb others' ideas, and to build upon and to enlarge them, if proper encouragement were given them, the world would look to them, as it now does to France and Germany, for the elucidation of wonderful theories relating to disease and human welfare.

Europeans have made strides where we have crept, because government patronage has been extended to the anatomist and the physiologist. What the effect of government patronage would be in this country has been illustrated by its effect in astronomy. A few decades ago this country was not thought of when this science was mentioned. The Government built observatories and took it under its protection; the result is that today we make as many celestial discoveries as any nation; our telescopes are the largest and the best, and are sent for to furnish European observatories.

If the Government would provide laboratories for biological and physiological investigation, it is safe to say that the discoveries of Americans in the terrestrial world would be as great as in the celestial.

In order to combat disease correct theories are necessary, based on absolute fact as far as possible. The microscope and the test-tube have revolutionized the science of medicine. There is no department in the treatment of disease but what holds out alluring promises of reward to the investigator. Since the welfare of the people, nay, their very lives, depend on the working out of these theories, every means and every encouragement should be given to those who attempt it.

It may be alleged that it is not the province of a democratic Government to patronize the arts and sciences; that it does very well for the more arbitrary rulers of Europe. To protect the interests of its people is surely the highest duty of any Government, monarchical or republican. To promote the knowlege of physiology, anatomy, and the healing of disease is to make more competent physicians to cope with the multitudinous ailments which flesh is heir to.

If an American wishes to fathom the deepest mysteries revealed by the microscope, to plunge into the deepest study of biology, he goes to Europe. Marey could never have made his magnificent studies of the circulation of the blood if the French Government had not given him its patronage.

Private munificence does much for arts and sciences in this country, and will probably do more. We are sure, in the fine arts and in medicine, even if entirely neglected by the Government, to do something one of these days worthy of the nation. If Pasteur's interesting experiments in hydrophobia should prove but the baseless fabric of a dream, they will have done much for us in that they have opened the eyes of the people to the fact that the medical scientists of America lack money and patronage to carry out investigations necessary to make a grand progress in the treatment of disease.

PARIS PHYSICIANS AND THE NEXT INTERNATIONAL CONGRESS.

WE publish below a communication from Dr. Johnston, of Paris, regarding the International Medical Congress. Dr. Johnston occupies a leading position among American physicians at Paris, and his letter should be read with attention:

"TO THE EDITOR OF THE MEDICAL RECORD: SIR—A considerable number of Paris physicians of eminence desire to attend the International Medical Congress appointed to be held at Washington in 1887, and have been making preparations to that effect.

"But the distance is great, especially to gentlemen little habituated to voyages of that magnitude; the total time consumed makes a large blank in a man's yearly labor; and to undertake such an enterprise they ought to have as much time for both reflection and preparation as it is possible to give them.

"May I be permitted to say, therefore, that I feel sure that it would be rendering these gentlemen a very great service, in fact, that it is a duty that ought not to be deferred a day longer—if there be any one with sufficient authority to speak in the matter—to announce at

once in the medical press, whether the Congress is to meet as agreed upon at the last Congress at Copenhagen.

"I have the honor to be, etc.,

"W. E. JOHNSTON, M.D.

"PARIS, December 10, 1885."

If we were to give to the foregoing inquiry an answer unreservedly in the affirmative, we should be misrepresenting matters to our Parisian confrères. It is announced positively and officially that there is to be an International Medical Congress. But we must add to this that the American profession is seriously divided over the matter of its management, and that a considerable part of the best men of the profession have been excluded, or have been forced in self-respect to withdraw, from all connection with it.

We are glad to state, however, upon authority, that efforts for a compromise are now being made, and that there are a number of prominent gentlemen in this city, who have heretofore held aloof from the Congress, who are willing to join hands with the present management if such concessions are made as will enable them to do this properly.

We shall be able, probably within a fortnight, to say whether these hoped-for arrangements have been made, and we shall make the announcement to our French confrères at that time.

If they are not made, and the present dissensions and disagreements continue, we cannot conscientiously advise foreign physicians to come over here.

EXAGGERATED FECUNDITY.

WE constantly notice in the daily newspapers paragraphs of a quasi-medical character that are quoted from country journals. They usually relate to cases of ministers or remarkable cures without medical aid, but always some sensational story, which makes a good newspaper item, and on this account is copied by all the daily and weekly journals throughout the country.

Recently such an item was published in a leading New York daily journal, and we have since observed it in exchanges from Chicago, Washington, D. C., and it is probably well on its way to more remote points of the Union.

It was the very simple statement, copied from the newspaper published at Napoleon, O., that the wife of William Friend, residing near that city, had presented her husband with five children at a single birth, and that the mother and all the children were doing well.

This story bore the guise of truth, as the name of the unfortunate parents were given, the locality, and authority. We, however, thought we would make this a test case, so as to arrive at the general truth of such statements.

In reply to a letter to the postmaster of Napoleon, O., he (Mr. S. C. Haag) stated that "this occurrence *should* have happened with a family living at Holgate, a town ten miles from here. William Friend himself denies the report, notwithstanding his neighbours claim the statement to be true."

This rather complicated matters, as William Friend, the victim, was surely a good authority on the subject, and ought to have been cognizant of the rather sudden addition of five blooming children to the family circle; but as the local Paul Pry and neighboring gossips still stoutly maintained the fact to be true, it remained an open question whether William Friend, from motives of modesty or prudence, had not withheld the truth. Many a man before him, the hero of a less glorious achievement, had declined public recognition, preferring to pursue quietly the even tenor of his way; besides, William Friend, if a poor man, might have dreaded the effect of the news on his creditors.

The postmaster, however, did one good service in sending the name of the medical attendant who presided at the quintuple delivery of the five little Friends.

He proved to be Dr. J. Townsend of Holgate, O., and in reply to a letter of inquiry, he promptly furnished a solution of the mystery.

From him we learn that, four years ago, Mrs. Friend honored her husband with triplets, whose entrance into and exit from this world was a contemporaneous event. Recently this lady, still despising the orthodox maternal instinct, which is usually all sufficient to satisfy the most ambitious and aspiring husband, gave birth to twins, who still survive.

Such fecundity as five children at two births was apparently a thing to be despised by a Western local editor, so to provide a good sensational item he lumped the aggregate of all the births into one great appalling maternal catastrophe. In other words, he determined "to mix those babies up," although Mrs. Friend, in the exercise of a wise discretion, took a breathing time of four years between her great efforts.

The result of this little investigation among Friends will probably serve as a caution to those who gather medical and scientific facts from lay journals.

M. PASTEUR.

M. PASTEUR is certainly the most astute of scientists. He has developed a protective virus which it takes some two years to manufacture, consequently he is safe for that length of time, at least, against all rivals who would wish to corroborate or otherwise the validity of his method. This virus is employed to prevent a disease which, in the great majority of cases, never develops anyway in the patients subjected to experiment. It is probable that not more than fifteen per cent. of persons bitten by genuinely rabid dogs get the disease.

These facts make M. Pasteur's position, as the inventor of a protective virus, quite a safe one. The distinguished savant is making it still more so by announcing that no others need attempt to manufacture the virus, as he can treat the whole world of bitten people. This speaks volumes for the rarity of rabies in man, or the quantitative resources of Pasteur's laboratory. After a human being is bitten, the disease generally develops between four and twelve weeks. In some cases, however, it has been known to appear within the second week. Unless the people of India, Africa, and China, then, have more than the circumnavigatory abilities of Mr. Phineas Fogg, we hardly see how Professor Pasteur can treat the world.

All this may seem somewhat captious criticism, but

unfortunately this is not the first time that Pasteur has announced, as wonderful discoveries, prophylactic inoculations that have been practical failures. We have every desire to do the distinguished experimenter justice, and will join in ascribing to him the most unstinted honors when he proves that his present jugglery with rabbits' cords amounts to something.

MISTAKEN CRITICS.

We observe that recently some of our usually quiet and mainly scientific and analectic contemporaries have come out with editorials upon the International Medical Congress controversy. This they have characterized as "indecent," "disgusting," "vituperative," "disgraceful," etc.

Such criticisms are untruthful, and do injustice to the medical press of the country. The fact that a quarrel exists is humiliating and unfortunate, but the controversy has been carried on without the use of language that could be called either "vituperative" or "indecent." So far as our own columns are concerned a strict regard has been paid to the use of Parliamentary language, the construction of admittedly rhetorical periods, and the elasticity of journalistic amenities. Most of our contemporaries can safely say the same thing. If there has been anything "indecent" or "disgraceful" it has not been in the mode of the controversy, but in the fact of its existence.

THE NEW YORK STATE MEDICAL SOCIETY.

The annual meeting of this society at Albany will soon take place, and we learn that a very large number of interesting papers have already been promised. We have no doubt that the prospects of a profitable meeting, and the feeling of loyalty to the old State society, will cause a large attendance.

It is quite time to consider the question, however, of some radical change in the society's organization, and in its time and place of meeting. The society, when chartered, and for long years afterward, held some controlling power over the practice of medicine in the State. Its organization was based on this fact, and membership was made a thing not easily attained. The society now has practically only scientific and social functions. The question arises, therefore, whether it would not be wiser to abandon its present elaborate machinery and throw the membership open to all, as is done by most other State medical societies. There are many reasons for believing that its popularity and usefulness could thereby be greatly increased.

THE COMMITMENT AND MANAGEMENT OF THE INSANE.

Two reforms in connection with the insane are urgently needed. One of these relates to the methods of commitment, the other to the treatment of the acute insane.

We have already alluded in these columns to this subject, but a constant reiteration is necessary. Practising physicians in this city who are called upon to commit the insane are often subject to vexatious delays and great personal annoyance. The physician generally has to go down town and await the pleasure of clerks and judges. Certain judges, we are informed, refuse to sign certificates in any case. The doctor is often obliged to fee the clerks in order to facilitate matters. There should be certain judges designated whose duty it would be to sign the certificates, and whose services could always be had without delay.

The manner in which the insane of the city are herded together, without receiving careful examination, or watchful and scientific medical treatment, is simply outrageous. As matters stand now, an insane pauper might just as well be boxed up in the Tombs as sent over to Blackwell's or Ward's Islands. The medical treatment amounts to nothing. It is quite time that some change be initiated. The chronic insane should be sent off to some country asylum, and sufficient room be given for the proper care of the acute cases. Upon treatment rightly given at these stages often depends the individual's future health and usefulness.

THE PREVALENCE AND CAUSES OF HERNIA.

The subject of hernia is one of such permanent interest that we offer no apology for calling attention to a number of facts regarding it which have been gathered together by Mr. R. J. Pye-Smith, although many of them are not particularly new.

Hernia occurs in about 1 in 25 of the population, but it is more frequent in Germany (1 in 13 adults), and least frequent among the Irish. One death in every 500 in England is due to hernia; and out of every 5 cases of strangulation 1 is fatal. Again, 1 case in every 10 suffers strangulation at some period of its existence, and hence 1 case of rupture in every 50 is ultimately, according to Dr. Pye-Smith, fatal.

Half the cases of strangulated hernia admitted into hospitals are inguinal, of which about two-thirds are reduced without operation, and one-third are operated on, with a mortality of forty-eight per cent. About one-seventeenth are umbilical, of which also two-thirds are reduced without operation, and one-third are operated on, with a mortality of fifty per cent. The remainder (nearly half the cases) are femoral, of which one-third are reduced without operation and two-thirds are operated on, with a mortality of forty per cent.

Thus it will be seen that one-half the total cases of strangulated hernia are reduced without operation, and half are operated on, with a mortality of forty-three per cent.

In the male inguinal is over twenty times as common as femoral hernia, while in the female femoral is somewhat (though not much) more common than inguinal.

With regard to age, Dr. Smith finds that inguinal hernia in both sexes commences far more frequently during the first year of life than it does during any subsequent year. It is found, too (Birkett), that half the cases of inguinal hernia admitted into hospital wards are of the congenital form. And again, femoral hernia occurs as a mere curiosity before puberty, but in each of the years between the ages of twenty and fifty, it develops, in women, with great frequency.

The exciting causes of hernia are almost exclusively such as put pressure on the contents of the abdomen, such as accidents causing a squeezing of that cavity,

straining, holding the breath for muscular exertion, especially in lifting weights (in which position the anterior abdominal muscles are at a disadvantage), coughing, vomiting, etc. Hence we find women affected in parturition, men in stricture of the urethra, and both sexes in bronchitis and in constipation. In male children Dr. Smith thinks that far the commonest exciting cause is the straining produced by phimosis. Mr. J. A. Kempe found, at the Ormond Street Hospital, that 3 out of every 5 cases of phimosis were ruptured, and among Dr. Smith's cases of hernia in male infants he found that 4 out of every 5 had phimosis. It is curious that this coincidence appears to have attracted so little attention. It is scarcely, if at all, mentioned in the text-books, and except for Mr. Kempe's communication to *The Lancet* (in 1878), Dr. Smith has seen only passing references to it. It is, however, a point of much practical importance, and may afford an additional reason for performing circumcision or dilating the prepuce in all cases of congenital phimosis, whether hernia is present or not.

DR. SUSSDORFF VINDICATED.

We are happy to learn from official papers before us that the long and annoying suit brought by Mrs. Lydia C. Cocks, of this city, against Dr. Gustave E. Sussdorff and another, for damages at the rate of $50,000 for loss of services of her daughter Clara, through malpractice at the hands of Dr. Sussdorff, has been decided against the plaintiff, and in favor of both defendants. Dr. Sussdorff has not only received a full and clear acquittal from the court, but we notice with pleasure that his treatment was pronounced to have been in every way proper and skilful, and that the patient was not injured, but greatly *benefited* by it. We have always believed such would be the result of the case, knowing, as we do, the doctor to be an honorable gentleman, as well as a skilful and conscientious physician.

We heartily congratulate him upon this final disposition of so annoying a case.

THE FUTURE OF CREMATION.

The literature on this subject has already become quite voluminous. That this method of disposal of the dead will become the method of the future, in cities at least, there seems at present little reason to doubt. It will meet the usual obstacles from old customs, prejudice, and preconceived opinion. But twelve years ago it was demonstrated by two Italian physicians, Brunetto and Gorini, that the body could be reduced to ashes without wounding the feelings of the most susceptible or fastidious; without sight, sound, or smell. The first great step was then taken. Cremation was demonstrated.

Since that time public opinion has steadily grown in its favor. Italy has led in this respect; but in our own land, nay more, within a few miles of us, cremation is now of almost weekly occurrence. Four bodies have already been burned at Fresh Pond, and, if the daily prints are to be believed, with excellent satisfaction to the friends of the deceased.

It is somewhat curious to note the grounds on which cremation has been opposed. The great argument in its favor has always been the sanitary one. From the very outset no one has disputed this or attempted to gainsay it; indeed, any attempt so to do would have been flying in the face of scientific facts. The observations of Pettenkofer, concerning ground-air and water, and the relation of their fluctuations to the outbreak of zymotic diseases, have proved the truth of Sir Henry Thompson's conviction that "no dead body is ever placed in the soil without polluting the earth, the air, and the water, above and about it." Some have declared that the abandonment of inhumation would rob the earth of its due allotment of nitrogen. The reply of the cremationists has been, that while the nitrogen of the incinerated body passes into the atmosphere in a gaseous form, it is by the rain eventually deposited in the earth, just as surely and just as effectually as if inhumation were practised. Some over-anxious orthodox people have feared that cremation would in some way show irreverence for the Christian doctrine of the resurrection, reasoning from an entire misapprehension of the relation between the spiritual and the physical. They have been speedily silenced by the crushing question of the orthodox Lord Shaftesbury: "If burning the body interfered with the resurrection, what would become of the blessed martyrs?" There is no doubt but that cremation was practised in the early days of Christianity. A careful study of the centuries shows it to have prevailed somewhere almost continuously since. Evidences are plain of its existence among the Swiss, in the eighth century, and among certain tribes of North American Indians at a somewhat later period. So in this, as in so many other matters, our greatest advances are only in the line of a return to the manners and customs of our progenitors.

The abolition of much of the expense connected with the present mode of burial is not the least advantage attendant upon cremation. The cost of single graves in the public lots of nearly all the cemeteries about New York is above the means of many poor people, and if they are not the recipients of some charitable organization, their dead must go to the Potter's Field. Even if cremation were to be in these cases at public expense (as will doubtless be the case in the future), it would be some comfort for the friends to know where the ashes of the dead were kept; for a public columbarium is much less harrowing to the feelings than a public burial-place.

Another curious argument advanced in favor of cremation is that the final religious services would be performed under cover, and that friends and relatives would not be exposed—as is now often the case—to the danger of taking cold and contracting thereby a serious if not a fatal illness. This argument is not without some force. From a sympathy and desire to show proper reverence for the dead, many persons expose themselves at funerals to the weather who, under other circumstances, would exercise greater caution.

Of course, no such subject could be discussed at large without stimulating some would-be paragrapher into attempts at humor. These have varied from the account of the small boy who was sent with a tin pail by his mother to the undertaker to learn "if dad was cremated yet," and if so to bring home his ashes, to that sentimentalism which has led some afflicted ones to plant flowering plants in the ashes of their deceased, and presumably water them with tears of sorrow. We are told

in a volume on cremation that this latter occurrence has actually happened. Looking upon the matter of cremation in a sober light, we must admit that it has already gained a foothold in this country. No one has dared to oppose it on scientific grounds. All are convinced of its utility from a sanitary point of view.

ALLEGED MISUNDERSTANDINGS WITH REGARD TO THE INTERNATIONAL MEDICAL CONGRESS.

CERTAIN of the gentlemen now having in charge the conduct of the International Medical Congress are hugging to themselves the delusion that it is simply a want of true understanding of matters that keeps up the present discord.

They should disabuse themselves of this idea at once.

It is perfectly well known that the Congress is now in charge of an Executive Committee, consisting at present of nineteen gentlemen. Three more names will be added when Presidents of the Sections of Physiology, Pathology, and Gynecology have been obtained, and the total membership is limited to thirty.

This Committee fails to gain support or confidence because it represents, not the profession, but the narrow policy and political methods of the American Medical Association —a policy which overturned the work and affronted the dignity of the original Committee, and because no confidence is felt that it will carry on the management of the Congress on liberal principles, recognizing scientific merit apart from any Code affiliation.

If the members of this Committee will personally take the trouble to make concessions which will remove this distrust, the organization can go on. But they must do more than tender a sop here and there, with no definite assurance as to their future policy.

News of the Week.

TOXIC EFFECTS OF COCAINE.—Dr. Thomas R. Pooley, of this city, writes: "In your issue of the 26th ult., p. 716, appears an abstract from the *British Medical Journal*, which in turn is an extract from a communication from Dr. Ziem, of Dantzic, to the *Allgemeine Medicinische Central-Zeitung*, on the 'Toxic Action of Cocaine.' This author reports a case in which toxic symptoms occurred from the instillation of two drops of a four per cent. solution of cocaine to the eye of a man aged forty. He then refers to seventeen cases which have been recorded in ophthalmological literature, and gives the authors' names, with the number of cases recorded by each. Three of these observations are credited to Dr. H. Knapp, of this city. My purpose in this communication is to state that, in all probability, one of the three cases credited to Dr. Knapp in reality was observed by me and referred to in his paper, by my consent, upon a written request of his to be allowed to do so. Since, so far as I am aware, mine was one of the earliest observations of the toxic effects of cocaine when dropped into the eye, it seems to me important to briefly refer to it again. November 14, 1884, preparatory to operating upon a healthy girl for strabismus, I instilled one or two drops of a four per cent. solution of cocaine. In a few minutes after there followed such extreme dizziness that the patient did not dare to try and rise from her chair lest she should fall. She did not lose color, had no nausea, but broke out in a profuse cold perspiration, and the dilatation of her pupil was greater than I had ever seen before from this drug. This case was referred to in a paper read at the Medical Society of the County of New York, February 3, 1885, and since published in their 'Transactions.' It was also published in the *New England Medical Monthly* for March, 1885, and is referred to by Dr. Knapp in his lengthy paper on 'Cocaine and its Use in Ophthalmic and General Surgery,' published in his Archives, volume xiii., Nos. 3 and 4, p. 442."

JOURNALISTIC CHANGES.—We learn that *The Analectic* will in future be edited by Dr. R. W. Amidon. *The American Practitioner* and *The Louisville Medical News* will hereafter be merged into one, and will be called *The American Practitioner and News*, edited by Drs. D. W. Yandell and H. A. Cotell. It will appear every two weeks.

NEW YORK POST-GRADUATE MEDICAL SCHOOL.—We are informed that the report that the Post-Graduate Medical School does not intend to take women physicians as matriculants is incorrect.

THE HOSPITAL SATURDAY AND SUNDAY FUND.—Up to the first of the week the total amount of the hospital Saturday and Sunday contributions for 1885–86 was nearly twenty thousand dollars. It is stated that the total amount promises to be larger than it was last year.

CHOLERA STILL ACTIVE.—As late as December 15th last cholera was reported still present in certain districts of Italy.

PASTEUR'S INOCULATIONS.—Pasteur has now treated seven Americans for the purpose of preventing hydrophobia. Of these it is not positively known that a single one of them was bitten by a rabid dog, unless it be Kaufman. The daily papers of the present week announce that the dog which bit him bit another dog, which latter has had signs of hydrophobia.

DR. C. L. DANA has been appointed Visiting Physician to Bellevue Hospital. An honor worthily bestowed.

DR. JOHN C. FAIRFAX, a practising physician of Prince George County, Md., is by descent and law the eleventh Lord Fairfax. He is also Lord Camerden. The first title is Scotch, the second an English title. Dr. Fairfax is an American citizen, and does not aspire to such baubles as an hereditary peerage bestows without estates to sustain them.—*New Orleans Times-Democrat.*

MR. AM ENDE, the Hoboken druggist who was put on trial for causing the death of two persons by administering morphine instead of quinine, has been acquitted. The defence set up was that the accident that resulted in the deaths was such as might have occurred in any drug store, and that outside of that Am Ende was suffering from mental overwork that made him absent-minded and led to his doing mechanically the things he had to do. After deliberating an hour and a half the jury rendered a verdict of "Not guilty." No doubt the lesson has been severe enough without the enforcement of a legal penalty. We are glad that Mr. Am Ende was set free. At the

same time it is quite evident that the defence set up was utterly frivolous and invalid. The defendant escaped no doubt because the jury did not think that he deserved the penalties of manslaughter. Perhaps it might be better if the law allowed some milder penalties for punishing the carelessness of druggists than those which now exist.

THE ATTACK ON THE CITY BOARD OF HEALTH.—Much disappointment is felt in medical circles over the action of the Board of Estimate and Apportionment in cutting down the appropriations for the City Health Board, and for the Street-Cleaning Department. While several Departments, including that of Parks and of Police, receive increased amounts, that for the Health Board is cut down from $469,758 to $319,800. The Street-Cleaning Department also receives $100,000 less than last year.

GOVERNOR HILL AND THE STATE BOARD OF REGENTS, AND THE STATE BOARD OF HEALTH AND OF CHARITIES.—In his annual message Governor Hill thinks that no reason for the continued existence of the "Board of Regents of the University" exists, and he recommends that it be abolished and its powers and duties relating to schools be transferred to the Department of Public Instruction. He also recommends the abolition of the State Board of Charities, and the creation of a single-headed department as a substitute, the official to be known as the Commissioner of Charities. The work of the State Board of Health, he thinks, could be better attended to by one Health Commissioner of the State.

ANOTHER FIRE IN AN INSANE ASYLUM.—The Essex County Insane Asylum, at Newark, N. J., caught fire last week, and part of one of the wings was destroyed, the loss being $75,000. The asylum is a new one, and cost $350,000. No blame is attached to the Medical Superintendent, Dr. Hinckley, who acted intelligently and promptly. It is stated, however, that there has been considerable trouble of late about the management of the asylum, and the entire Board of Freeholders are under indictment "for non-feasance in office."

THE "AMERICAN PASTEUR INSTITUTE."—The certificate of incorporation of the American Pasteur Institute was filed last week in the New York County Clerk's office. The objects of the "institute" are "the gratuitous cure and treatment by the Pasteur system of inoculation, or such variations thereof and improvements thereon as science may develop, of all persons suffering from, or threatened with, or in danger of hydrophobia or any other disease to which the system of inoculation may be found applicable, and the scientific examination of the causes, development, and improved means of prevention of hydrophobia and other diseases through inoculation or kindred methods." The incorporators are Alexander B. Mott, Michael J. B. Messemer, Louis De Pease, Alexander F. Trantard, Charles F. Nirdlinger, Charles Villa, Valentine Mott, and Adolph Corbett. We learn that a company has been organized in St. Louis, Mo., for the purpose of cultivating and using the Pasteur virus against rabies.

THE HONOR OF KNIGHTHOOD has been bestowed upon Dr. George E. Paget, of Cambridge; Dr. William Roberts, of Manchester; and Dr. James Sawyer, of Birmingham.

TYPHUS FEVER IN A PENITENTIARY.—Within a few days 13 inmates of the Albany Penitentiary have died of typhus fever. There are 1,075 persons in the prison, and one-tenth of them have suffered from the disease in the last six weeks.

THE VITAL STATISTICS OF THE CITY FOR THE PAST YEAR.—The records of the Health Department show that during the last year there were 35,696 deaths, 30,030 births, and 11,716 marriages, as against, in the preceding year, 35,054 deaths, 30,527 births, and 11,805 marriages. Thus it is revealed that while the death-list increased 662, the number ot births fell off 197, a remarkable decrease, due possibly to the sudden cessation of foreign immigration.

Causes of death were—	1884.	1885.
Measles	772	736
Scarlet fever	608	558
Small-pox	....	27
Diphtheria	1,090	1,327
Whooping-cough	90	88
Diarrhœal diseases	6,839	6,298
Yellow fever	....	1
Pneumonia	....	3,636
Apoplexy	....	706
Suicides	....	211
Homicides	....	57
Brain disorders	....	3,198
Heat	....	146
Heart disease	....	1,800
Rheumatism	....	174
Drowning	....	183
Cancer	....	757
Total zymotic diseases	....	9,086

Of the children born 15,534 were males and 14,503 were of the opposite sex; 29,678 children were white and 352 colored; 16,074 were of foreign parentage and 8,107 were of native parentage. The rest were of mixed parentage. The youngest mother and the youngest father were each thirteen years of age. The oldest mother was fifty years of age. Four of the fathers were eighty years of age each. One woman gave birth to triplets and 254 to twins.

The cases of contagious diseases reported during the year were as follows:

	1884.	1885.
Typhus fever	82	120
Typhoid fever	943	1,101
Scarlet fever	2,772	3,250
Diphtheria	2,891	2,221
Measles	4,066	4,392
Cerebro-spinal meningitis	217	228
Small-pox	105	5
Yellow fever	1	3

There were 68,472 vaccinations performed during the year, as against 34,294 during the preceding year.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The eightieth annual meeting will be held in the Common Council Chamber, City Hall, Albany, Tuesday, Wednesday, and Thursday, February 2, 3, and 4, 1886. The following is the preliminary announcement of papers: 1, Lessons in the Management of Club-Foot, by V. P. Gibney, M.D., New York; 2, Methods of Diagnosis, by Lawson Tait, F.R.C.S., Birmingham, Eng.; 3, Vesical Calculi in Female Children, with Cases, by N. A. Powell, M.D., Edgar, Ont.; 4, Rheumatic Affections of the Joints, by A. Hadden, M.D., New York; 5, Notes of Autopsy Disclosing Absence of the Liver, by Benj. C. Senton, M.D., Whitehall; 6, Peritonitis of Infants and Children, by A. Jacobi, M.D., New York; 7, The Free Dispensary System, by Joseph W. Howe, M.D., New

York; 8, Infant Feeding, by E. F. Brush, M.D., Mt. Vernon; 9, Consultations, by Laurence Johnson, M.D., New York; 10, Medical Testimony and the Hypothetical Question, by Wm. C. Wey, M.D., Elmira; 11, The Recording of Cases; The Effect of the Electric Light upon the Eye, by Lucien Howe, M.D., Buffalo; 12, The Establishment of a State Board of Medical Examiners, by P. R. Furbeck, M.D., Gloversville; 13, Burns Considered as Wounds and Treated According to Scientific and Antiseptic Methods, by Robt. J. Morris, M.D., New York; 14, Antiseptics in Midwifery, by Walter B. Chase, M.D., Brooklyn; 15, The Results of the Operation for Convergent Squint, by D. B. St. John Roosa, M.D., New York; 16, Spontaneous Expulsion of a Large Calculus in the Case of a Female Aged Sixty-eight Years, by Harvey Jewett, M.D., Canandaigua; 17, Leprosy in Japan, by D. B. Simmons, M.D., Poughkeepsie; 18, The Clinical Diagnosis of Cancer Sufficient for Practical Purposes, by Daniel Lewis, M.D., New York; 19, Some Observations on the Treatment of Uterine Displacements in General Practice, by L. E. Felton, M.D., Potsdam; 20, Obstetric Palpation, by W. W. Potter, M.D., Buffalo; 21, Ovarian Tumor—Advantages of Early Ovariotomy, Disadvantages of Delay, by T. H. Squire, M.D., Elmira; 22, Megrim with Intermittent Ptosis, by J. C. Shaw, M.D., Brooklyn; 23, Acute Nephritis, Especially as Following Diphtheria, by A. R. Simmons, M.D., Utica; 24, Treatment of Aural Polypi by the Injection of Carbolic Acid, by Herman Bendell, M.D., Albany; 25, Tinea Tonsurans; or, Ringworm of the Scalp, by F. C. Curtis, M.D., Albany; 26, A Clinical Note on Bright's Disease and Diabetes Mellitus, by Wesley M. Carpenter, M.D., New York; 27, Report of a Case of Empyema, by B. F. Sherman, M.D., Ogdensburg; 28, On the Limitation of the Contagious Period of Syphilis, in Relation to Marriage, etc., by F. N. Otis, M.D., New York; 29, General Arterio-Capillary Fibrosis, its Relation to Cardiac and Renal Disease, by Alfred L. Loomis, M.D., New York; 30, Prevention of Hemiplegia, by W. H. Thomson, M.D., New York; 31, A Case of Tumor of the Maxillary Antrum and Orbit, by T. R. Pooley, M.D., New York; 32, The Early Management of Cases of Mental Depression, by Willis E. Ford, M.D., Utica; 33, A Comparison of Some of the Modern Methods of Treating Ununited Fractures, by Geo. R. Fowler, M.D., Brooklyn; 34, Ulcerative Endocarditis, by H. R. Hopkins, M.D., Buffalo; 35, Cholera, by J. A. S. Grant Bey, M.D., Cairo, Egypt; 36, Fatty Tumors of the Knee-joint, by R. F. Weir, M.D., New York; 37, Treatment of Tertiary Syphilis of the Nose, Mouth, and Throat; Records of Cases Presented and Fully Illustrated, by D. H. Goodwillie, M.D., New York; 38, Ozæna, by John O. Roe, M.D., Rochester, N. Y.; 39, Hygiene of the Ear, Based upon the Record of More than Twenty-eight Hundred Cases, by C. R. Agnew, M.D., New York; 40, History of a Case of Abscess of the Kidney, by C. L. Stiles, M.D., Owego; 41, Remarks on Pelvic Inflammations in Females and Their Treatment, by Arthur M. Jacobus, M.D., New York; 42, (Subject to be announced,) by William S. Ely, M.D., Rochester; 43, Disease of the Fallopian Tubes, with Reports of Cases, and Characteristic Specimens, by W. Gill Wylie, M.D., New York; 44, Report of a Case of Swallowing a Plate with Four Artificial Teeth, the Same being Passed, per Rectum, on the Sixth Day; with Remarks, by L. M. Bates, M.D., Canaan Four Corners; 45, Excision of the Knee-joint, with Cases, by A. M. Phelps, M.D., Chateaugay; 46, Hemorrhage after Removal of the Cervix Uteri for Epithelioma with the Galvano-Cautery Wire, by James P. Boyd, M.D., Albany; 47, The Benefits Arising from Laws Regulating the Practice of Pharmacy, by A. B. Huested, M.D., Albany; 48, Migraine, by Floyd S. Crego, M.D., Buffalo; 49, Cremation, by Charles Cary, M.D., Buffalo; 50, Tubercular Ulceration of the Pharynx, by F. W. Hinkel, M.D., Buffalo.

Communications relating to the above papers, or others that may yet be offered, as to date of reading and time required, should be addressed to any member of the provisional Business Committee: Dr. W. W. Potter, Chairman, 306 Franklin Street, Buffalo; Dr. Daniel Lewis, 62 Park Avenue, New York; or Dr. A. M. Phelps, Chateaugay, N. Y.

A. VANDERVEER, M.D., *President.*
WM. MANLIUS SMITH, M.D., *Secretary.*

ALBANY, N. Y., January 1, 1886.

Reviews and Notices.

AN ATLAS OF CLINICAL MICROSCOPY. By ALEXANDER PEYER, M.D. Translated and Edited by Alfred C. Girard, M.D., Assistant Surgeon U. S. A. First American, from the MS. of the second German edition, with additions. Ninety plates, with one hundred and five illustrations, chromo-lithographs. New York: D. Appleton & Co., 1, 3 and 5 Bond Street. 1885.

THE translator and editor of the book has hereby rendered substantial assistance to his professional brethren in this country, and the publishers have sustained his labor in a most admirable manner. To the microscopist it is encouraging to look upon the beautiful and correct illustrations of what can be seen in the fluids which have been studied.

Illustrations of these structures are so apt to be coarse and misleading that a close approximation to their delicacy in outline will be hailed with intense satisfaction.

Dr. Peyer has divided his subject into nine parts. Dr. Girard tells us that he induced the author to add fifteen new plates. The *first* part is on the microscopical examination of the blood, and the plates illustrate normal and morbid appearances, and also bacilli found in this fluid. The microscopical appearances of milk are illustrated in the *second* part, including colostrum, mastitis, and chronic disease. The *third* part is devoted to examination of the urine, and embraces its general qualities and chemical composition, as well as crystals, casts, epithelium, bacteria, and foreign bodies. Here also we find illustrated the appearances in diseases of the kidneys and bladder, chronic urethritis and spermatorrhœa. The microscopical examination of the sputum makes up the *fourth* part, and we find illustrated the accidental constituents of expectoration, the appearances of the sputum in pulmonary diseases, the tubercle bacilli, Leyden's asthma crystals, the débris of an hepatic abscess which discharges through a communication made with a bronchus, etc. Part *five* contains the microscopy of the stool, with parasites, cholera bacilli, etc. The *sixth* part consists of the microscopy of the contents of the stomach, chronic gastric catarrh, and the echinococcus. Under the head of microscopy of fluid of abdominal tumors, *seventh* part, are illustrated the contents of an ovarian cyst. The secretions of the female sexual organs have been illustrated in part *eight*, and the various micro-organisms provoking disease, such as pyæmia, typhoid fever, pneumonia, and gonorrhœa, are illustrated in part *nine*. The last illustrations are from Friedländer; otherwise the plates are original with the author, and, so far as the reviewer has been able to discover, are more acceptable. The student, the amateur, and the expert will turn to this as a book of reference, and therefore the publishers would have added to its intrinsic value had they given the readers a full index. This defect in a work of this kind is entirely inexcusable, and should be remedied at once.

PHYSICIAN'S VISITING LIST FOR 1886. Philadelphia: P. Blakiston, Son & Co.

THE fact that this is the thirty-fifth year of publication of this handy visiting list is a sufficient indication of its popularity. It contains the usual tables of poisons and their antidotes, doses of drugs, etc.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 9, 1885.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

DR. T. MITCHELL PRUDDEN reported on the specimen presented at the last meeting, in behalf of a candidate, by Dr. H. J. Boldt (see vol. 28, p. 710).

Dr. Prudden also presented, in behalf of a candidate, a specimen of *carcinoma of the stomach, liver, and omentum.*

SARCOMA OF THE LIVER.

DR. H. J. BOLDT presented a specimen removed from the body of a woman, twenty-six years of age, whom he first saw two and a half months ago. At that time she had noticed for the past few weeks a swelling in the right hypochondrium, and that her strength was daily diminishing. On examination he found the entire abdomen occupied, apparently, by an enlarged liver, which extended upward two and a half inches above the nipple, pressing upon the lung and producing bronchial respiration; her heart was also displaced upward. The patient was not very much emaciated. There was an indistinct history of syphilis. The patient was perhaps temperate. Diagnosis of amyloid degeneration of the liver was made, probably due to syphilis. She entered a hospital where the same diagnosis was made, and where, on examination, the spleen was made out to be very much enlarged. She remained in the hospital several weeks, and was discharged, when she again came under Dr. Boldt's observation, and on further examination the history of syphilis became very doubtful, and still further, he ascertained that previously she had had an eye extirpated by Dr. Knapp. He then suspected that the growth in the abdomen was malignant.

Autopsy, twenty-four hours after death. There was complete absence of rigor mortis. The entire abdominal cavity was found occupied by the enlarged liver, the surface of which was smooth, with the exception of one place where a small nodule protruded. The intestines were crowded into the true pelvis, and were firmly adherent to the under surface of the liver. The mesenteric glands were somewhat enlarged. The ascending colon was adherent to the posterior surface of the liver. The spleen was only moderately enlarged. The lungs were compressed. The heart was exceedingly small, but otherwise normal. The liver weighed nineteen pounds six ounces and a half.

DR. J. WEST ROOSEVELT presented specimens of

COMPOUND CYSTIC KIDNEYS

which were interesting, especially in connection with the specimen reported upon by Dr. Prudden. They represented cystic degeneration of the kidneys and liver. They were referred to the Committee on Microscopy.

Joseph C——, thirty-seven years of age, born in Ireland, married, and a laborer, was admitted to Roosevelt Hospital July 6, 1883. He has been a hard drinker, denies syphilis, and has been sick a year or longer, complaining of palpitation of the heart, and muscæ volitantes; first symptoms five or six months ago; dyspnœa on exertion, general anasarca, vomiting, headache, urine passed frequently and was dark in color. These symptoms were severe for a month or more, and then lessened in intensity, the œdema disappearing, the other symptoms remaining. For last three weeks much thirst.

On admission, poorly nourished, flushed face, tongue moist and clean, no œdema, some dyspnœa; pulse, 84; respiration, 21; temperature, 99.4° F.; slight cough and expectoration; urine neutral, 1.003; albumen five per cent., no casts, granular matter. Liver enlarged, abdominal veins enlarged.

July 8th.—Diarrhœa, light-colored stools.

July 12th.—Great dyspnœa in morning, coma at 11 A.M. Death at 3 P.M., with eyes deflected to the right.

Autopsy, July 13th, at 10.30.—Brain: Normal; some thickening of vessels at the base. Heart: Some hypertrophy of the left ventricle; aortic and mitral valves somewhat thickened. Lungs: Adhesions extensive of pleura over right base; some emphysema; both solid with œdema. Liver: Enlarged; filled with numerous cysts, varying in size from being just visible to the size of a lemon. Walls thin; contents of some, thin straw-colored fluid, while others contain thicker dark fluid. Spleen: Normal. Kidneys: Right extends from liver to margin of true pelvis. The colon lies in front of it. The upper end is bent inward as if from the pressure of the liver. Left of same size, extending from diaphragm to near the true pelvis. Both kidneys are converted into masses of cysts similar to those in the liver. These masses retain somewhat the original shape of the kidneys. To the naked eye no normal kidney tissue can be seen, but between the cysts in places are solid yellowish-red masses. Ureters are patent. Renal arteries: Normal. Bladder: Normal. Stomach: Chronic gastritis.

On looking up the literature of the subject, Dr. Roosevelt had been able to find but few cases of cystic kidneys with cystic liver reported. Frerichs, "Syd. Soc.," second edition, p. 223, reports one case. Bristowe, in the "Transactions of the Pathological Society," bound vol. vii., p. 229, and also vol. x., p. 174, reports cases. Murchison, second edition, records a case of supposed simple cyst with rupture. Kidneys not diseased. W. Johnson Smith, "Quain's Dictionary," p. 849, mentions the existence of such cysts and quotes Hulke for dermoid cysts.

CYSTITIS—PYELITIS—ACUTE INTERSTITIAL PURULENT NEPHRITIS.

Dr. Roosevelt also presented a specimen of cystic kidney removed from the body of a patient who was admitted to Roosevelt Hospital eighteen months ago, with acute cystitis and some evidence of pyelitis. Stone was found in the bladder. The patient lived only a few days. At the autopsy there was found an immensely hypertrophied bladder, containing a stone about the size of a walnut. The right kidney contained small cysts without a trace of kidney tissue. The pelvis and ureter were dilated. The left kidney was increased in size, and showed acute interstitial purulent nephritis. The specimen was referred to the Committee on Microscopy.

DR. WACKERHAGEN presented a specimen with the following history:

RESECTION OF THE LOWER FOURTH OF THE FIBULA.

Nellie L——, a school-girl, aged thirteen, native of the United States, in July, 1882, fell on the pavement, producing a contusion on the outer aspect of the right ankle. Aside from the temporary tenderness no lameness resulted, nor was there at any time pain or other sign of inflammatory action, except swelling, until December, when an abscess ruptured spontaneously. A physician was now for the first time consulted. He enlarged the opening, giving free exit for an abundant flow of pus, after which healing was rapid, leaving no apparent injury to the part. A year and a half later, in May, 1884, the first evidence of joint trouble associated with lameness began to develop, the gait became halting, and the ankle swollen, though still without pain or tenderness.

The joint becoming weak the assistance of a cane was necessary—for throwing the weight incautiously upon the crippled foot it inverted, collapsing suddenly. Associated with this tendency to inversion, movements of flexion and extension were more restricted.

Several months now elapsed under somewhat irregular counter-irritative treatment, the trouble meanwhile progressing steadily.

In March, 1885, after prolonged poulticing applied by

the mother, a second abscess ruptured two and a half inches above the external malleolus.

On the 9th of April following, I was called to see the patient, and enlarged the opening by a longitudinal incision down to the bone and on a level with the malleolus. The fibula was found necrotic in its inner anterior diagonal half for a space of an inch and a quarter. The disease had also encroached upon the astragalus, and in scraping away the affected portion the joint was of necessity invaded. A drainage-tube having been inserted through a counter-opening made on the opposite side of the joint, full antiseptic dressings were applied.

There being no improvement by May 13th, excision was determined upon. The periosteum being carefully preserved, two and a half inches of the fibula were removed and the wound dressed antiseptically. Although the wound healed slowly the changes in the deeper structures were quite satisfactory, the bone being renewed and the functions of the joint in part restored.

Return to use of the limb was gradually permitted, with the aid of a crutch, and at the present time the result is almost perfect.

THE PRESIDENT remarked that it was rare to see disease of the fibula and no disease of either the tibia or the joint.

DR. GIBNEY remarked that most surgeons who perform excision of the ankle-joint find the bones of the tarsus so invaded that the result is a rather full gouging of these bones.

THE PRESIDENT remarked that he had performed complete excision of the ankle-joint in six cases within three months, and in no one was the fibula diseased; nor had he ever seen a case in which the fibula alone was affected.

THROMBOSIS OF THE SUPERIOR LONGITUDINAL AND LEFT LATERAL SINUSES—CARDIAC THROMBOSIS—WHITE RENAL INFARCTIONS.

DR. L. EMMETT HOLT presented the heart and kidneys of a female child, seventeen months old, who died in the New York Infant Asylum, November 11, 1885. The facts in the history were furnished by Dr. E. B. Thelberg, the resident physician.

Until six days before death the history of the child presented nothing of importance. It was born in the institution, had been a rather delicate child; dentition had been difficult and accompanied by marked signs of cerebral irritation, generally also by a rise of temperature, once reaching 105° F. These symptoms always disappeared promptly when the teeth pierced the gum. On November 5th an attack, to all appearance similar to those previously observed, began while the child was cutting the canine teeth. Until November 10th there was nothing peculiar about the symptoms. She was exceedingly irritable, tossing about in the crib, or throwing herself violently backward, stuffing the hands into the mouth, and had an irregular febrile movement which ranged from 99° to 103°. The bromides were given in full doses with but slight effect; rubbing the gums with a cocaine solution, which had been found efficient in similar cases, also gave no relief, and only a temporary quiet was produced by three-grain doses of chloral.

On the morning of November 10th the temperature was found to be 104°, and marked cerebral symptoms were present. She was very drowsy, then comatose, the pupils were contracted; no paralysis was noticed. On the following day, about three hours before death, she quite suddenly developed extreme general cyanosis. The pulse at the wrist became imperceptible. Free stimulation by brandy, ammonia, and inhalations of oxygen was employed, but without perceptible benefit. She died cyanotic. There were no convulsions, and no renal symptoms, the urine being passed freely throughout the sickness.

Autopsy, eighteen hours after death.—*Head:* Fontanelle open about three-fourths of an inch wide; dura, normal; pia slightly cloudy, and a little more than normal quantity of the subarachnoid fluid. The *right* hemisphere was intensely congested, the vessels of the pia were turgid and prominent. The *left* side was anæmic, the contrast being very striking. The difference in the vascularity of the two sides existed in the interior of the brain and in the cerebellum. The basilar and main central arteries were examined but showed no obstruction, and no explanation of the condition of the vessels of the cortex referred to.

The sinuses were then laid open, and a firm thrombus was found filling the posterior two-thirds of the superior longitudinal sinus, and the *left* lateral sinus to the jugular foramen. These thrombi were almost decolorized, slightly adherent, and pretty firmly organized. Thrombi were found in several of the larger veins of the cortex of the left side, extending downward from the superior longitudinal sinus. The *right* lateral sinus contained only dark fluid blood.

Thorax.—The lungs were congested and œdematous, but in other respects normal.

The heart was rather pale, but its walls otherwise normal. No signs of endocarditis present. The right auricle was distended, with a firm, pale thrombus very adherent and extending through the tricuspid opening into the ventricle; here it was also adherent. On the left side were similar thrombi in the auricle and ventricle, but smaller than those of the right, being in the auricle the size of the end of the forefinger, in the ventricle about half as large.

Abdomen.—Liver, intestines, and pancreas normal. Spleen about three times the normal size, firm and intensely congested. No infarctions seen. Kidneys slightly enlarged. Over the surface of each fifteen or twenty circumscribed whitish patches seen, varying in size from a small pea to half an inch in diameter. Capsule over these not adherent. On section of the organ they were found to extend into the kidney as wedge-shaped masses, to the depth of from one-fourth to one inch.

Microscopical examination of the kidneys shows the white patches to be areas of coagulative necrosis, with extensive proliferation of new cells at their margins. A number of small capillary hemorrhages were seen scattered through the organ, and some beginning diffuse nephritis.

The condition of hyperæmia of the right side of the brain and the anæmia of the left seems quite an anomalous one, and exactly the opposite of what would be naturally expected. No explanation was found that appeared satisfactory. The appearance of the thrombi themselves, as well as the renal infarctions, showed beyond all reasonable doubt that they were all of ante-mortem occurrence.

It might be well to state that the usual hypostatic congestion of the body externally was equally intense upon both sides, so that the condition of the brain could not have depended upon position.

DR. AMIDON said that if a less careful examiner than Dr. Holt had reported the case he should say that the hemispheres, had become interchanged, but he thought it was not possible in this case. Probably there was some decided obstruction to the arterial circulation of the left hemisphere which brought about, in the first place, the anæmic condition, and in the second place, the sluggish condition in the venous channels which allowed thrombosis to occur. In the absence of examination of the arteries upon that side he should think that was the probable explanation.

DR. HOLT remarked that the large vessels were examined, but not beyond the second bifurcation; and that special care was taken that the hemispheres did not become interchanged, as attention was directed to that point.

DYSPNŒA—ATHEROMATOUS CONDITION OF THE ARTERIES—MULTIPLE CARCINOMA.

DR. VAN SANTVOORD presented specimens removed from the body of a man seventy years of age, an em-

ployee on Randall's Island, who came under observation of the house physician only two days before death, when he was suffering chiefly from intense dyspnœa, with a history of previous shortness of breath. Physical examination showed that he had considerable fluid in both pleural cavities, with a loud cardiac systolic murmur of rather uncertain origin. He died apparently from the effects of dyspnœa.

At the autopsy the brain was anæmic, the arteries were only slightly atheromatous, but were remarkably brittle. There were one or two spots of softening immediately under the cortex. Each pleural cavity contained about a quart of straw-colored fluid, and in the right there were some flocculi of recent lymph. The upper lobes of both lungs showed fibroid phthisis and cheesy nodules. The pleura on the left side was exceedingly thick, both costal and parietal. The upper lobes were firmly adherent to the chest walls.

The left ventricle of the heart was largely hypertrophied. The mitral valves were slightly atheromatous, but there was no insufficiency. The right ride of the heart was substantially normal. The aorta was exceedingly atheromatous, the process having gone so far as to become calcareous. The aortic valves and the coronary arteries were atheromatous, and the processext ended slightly into the large vessels at the root of the neck.

The radial artery was only slightly atheromatous, and exhibited only a slight amount of thickening.

The stomach was eight inches long, and the lesser curvature was occupied by a saddle-shaped neoplasm two and a half inches in length and breadth, and about half an inch thick. The mucous membrane did not seem to be involved, and the tumor was apparently situated in the muscular layer. Subsequent microscopical examination showed that it was carcinoma. The liver was about two-thirds the normal size, its capsule was irregularly thickened, and there were some adhesions to the colon and omentum. The spleen was about half the natural size, and its capsule was very much thickened. The mesentery was very much thickened, and by adhesions the colon had been drawn down and presented a remarkable curve. The same process also extended around the rectum. The kidneys were about two-thirds the normal size; the capsules somewhat adherent. The blood-vessels stood out prominently with thickened walls, and they were, therefore, evidently in a condition of marked fibroid degeneration. There was also fibroid degeneration of several of the organs.

The bladder contained a tumor, circular in shape, one inch wide, one-fourth of an inch thick, and presented the same appearance to the naked eye as that found in the stomach. The rectum was adherent to the base of the bladder by an old process, and in its wall was a tumor like that found in the fundus of the bladder.

Dr. Van Santvoord also presented specimens removed from the body of a man who came into Randall's Island Hospital, with the following history:

ACUTE INTERSTITIAL NEPHRITIS—PNEUMONIA—PECULIAR GROUP OF PHYSICAL SIGNS.

On admission his mental condition was fair, and he said he had been sick seventeen or eighteen days with a fever and cough, but without expectoration. There was marked dulness over the upper lobe, with flatness over the lower lobe; auscultation revealed absence of respiratory murmur over the lower lobe, and amphoric breathing over the upper lobe in front. The examination was made by Dr. E. A. Maxwell. On the following day the amphoric breathing had disappeared, and bronchial breathing had taken its place. Over the lower lobe flatness had also disappeared, and bronchial breathing had appeared where there was absence of respiratory murmur before.

The urine contained albumin to the extent of one-eighth of its bulk, and there were epithelial and blood casts, and free blood. This examination also was made by Dr. Maxwell. On the last day of his life the patient had three epileptiform convulsions.

Autopsy.—The body was in a fair state of general nutrition. The brain: The arachnoid was thickened, as if by some chronic process, and under it was a quantity of a somewhat gelatinous lymph infiltrated with pus. This appearance covered the convex surface, and at the base extended into the spinal canal, especially on the posterior surface of the cord.

The upper lobe of the right lung was in a condition of gray hepatization, and differed from that ordinarily observed in the fact that the consolidation extended very nearly to the anterior edge of the lung, which is free, as a rule, in pneumonia of the upper lobe. Dr. Janeway had already called attention to the fact that in pneumonia affecting the upper lobe, and extending nearly or completely to the anterior edge, there might be not only amphoric respiration instead of bronchial, but also cracked-pot note, because the weight of the lung pressed firmly upon the bronchus and gave rise, by pressure, to the possibility of cracked-pot resonance on percussion.

The left ventricle was considerably hypertrophied, and the aorta contained only a trifling amount of atheroma. The radial artery on the right side was exceedingly atheromatous and calcareous, and the process existed to a less extent in the left radial. The vessels at the base of the brain showed only a moderate amount of atheroma. The kidneys contained a few cysts; one cyst at the upper extremity of one kidney was as large as a turkey's egg. The capsules stripped readily, and the kidney itself had considerable fat in the pelvis, and the process appeared to be one of chronic diffuse nephritis with great predominance of parenchymatous change. The urine had shown that there was an acute interstitial nephritis, which was the fatal factor in the case. The other viscera presented no lesions of special importance.

THE PRESIDENT presented specimens of

CONGENITAL TUMORS IN FRONT OF THE ANTI-TRAGUS.

The father had the same kind of tumors, also his sister, and the growths were evidently hereditary. The specimens were referred to the Committee on Microscopy.

TUBERCULAR (?) TESTIS.

The President also presented a specimen of necrosis of the testicle, accompanied with the following history: David D——, fifty-five years of age, married, a native of Holland, and a cutter by occupation, was admitted to Mt. Sinai Hospital December 7, 1885. He had had a hernia on the left side for twenty-five years. About seven months ago his left testicle became enlarged, and was slightly painful. The swelling increased gradually, and was treated, but did not improve. About six weeks ago the swelling began to extend upward into the inguinal canal, and became harder and more tender. The patient had always been more or less constipated. He had had slight abdominal pains, and almost continuous pain just below Poupart's ligament. He had a chill yesterday. He had a perineal abscess two years ago, due to a piece of wood he had swallowed with bread, and which appeared in the abscess. His previous health had been good. He had been treated lately for posterior spinal sclerosis. His family history was negative.

On examination the tumor was as large as a man's fist, and evidently contained fluid. The diagnosis was, possible hydrocele. The symptoms of strangulated hernia were not clear, but it was thought best to cut down upon the mass, with reference to the condition of the testicle, to the possible existence of a hernia, and with a view to removing the fluid. The incision was made, and Dr. Wyeth found a double cyst. The first was outside the cord, and discharged from one to two ounces of fluid; and inside of that was a second cyst which discharged four ounces of serous fluid. There was no hernia. On examining the testicle it was found to be very much en-

larged and nodular—the epididymis as well as the body of the organ. The testicle was removed.

The surgical point of interest was that it could not be determined whether the tumor was a hernia, or an enlarged testicle, or a hydrocele. The specimen was referred to the Committee on Microscopy.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE.

Stated Meeting, December 15, 1885.

ALFRED L. LOOMIS, M.D., LL.D., CHAIRMAN.

THE PHYSICS OF PNEUMATIC DIFFERENTIATION.

THE discussion was opened by MR. JOSEPH KETCHUM (see p. 31).

DR. E. DARWIN HUDSON, JR., followed in the discussion with remarks which appear on page 29.

Remarks by DR. A. H. SMITH: "It appears to me that the statement by the reader of the paper, that the capacity of the air for retaining moisture is lessened by compression, is opposed to the constant observation that fogs occur chiefly when the barometer is low. So, also, it was observed in the caissons of the Brooklyn Bridge, where the air was always saturated with moisture, that the slightest reduction of the pressure instantly produced an impenetrable mist. The attraction between the molecules of air and the molecules of water is lessened in proportion as they are removed from each other.

"As to the conditions under which the patient breathes when in the cabinet, I cannot see that they differ essentially from those which obtain in the use of the Waldenburg apparatus. In either case there is a difference between the tension of the air inhaled and that of the air surrounding the body; and whether the difference is produced by increasing one or diminishing the other seems to me a matter of indifference. In regard to convenience, however, the cabinet has some advantages.

"As to the gymnastics of the chest, the extra motion is purely passive. It has its value, as passive motion of stiffened joints has, in breaking up adhesions, etc., but it can do little or nothing for the development of the chest-muscles, as no extra activity is demanded of them.

"No comparison can be made between the conditions in the cabinet and those in the caissons of the bridge, since they differ not only in degree, but in kind. In the caissons the pressure of the inspired air and that of the air surrounding the body was the same, and one balanced the other. Had the interior of the lungs communicated with the air outside the caisson, the chest would have been instantly crushed by the unopposed pressure of the compressed air surrounding it. On the other hand, if the pressure had been removed suddenly from the surface of the body, the chest would have been rent asunder by the expansion of the compressed air within it."

DR. PUTNAM-JACOBI had been specially interested in one point to which Mr. Ketchum had directed his particular attention—namely, the importance of condensing the air or vapor, after it has once entered the lungs. She had always understood that in the application of medicated vapors to the lungs the one desirable thing was to avoid their condensation in the upper air-passages before they could reach the lung tissue itself. This difficulty is so great to be overcome that she had been astonished to hear that the inventors of the cabinet had given themselves so much labor and trouble to effect condensation.

In the second place, Mr. Ketchum had shown plainly that inspiration was very much increased; that the lungs could not fail to be expanded; that the air within them was rarefied, and that the divisibility of the vapor was increased; but she failed to see the proof that expiration was increased.

THE CHAIRMAN said that he stood in the position of "a looker-on in Venice," so far as pneumatic differentiation was concerned. It seemed to him, when he was first introduced to it, that the principle was a good one, and on one basis. He did not believe very much in the efficacy of attempts to medicate the lungs by means of spray or vapor, but that in the cabinet, which seemed to him to have a future, was pulmonary gymnastics; and instead of sending patients to high altitudes it may be possible to accomplish, by properly arranged apparatus, what can be obtained by changes in climate. He was willing to assist Mr. Ketchum all that he could in perfecting his instrument, and thought it would not be long before some definite conclusions could be reached, and he also believed that reliable conclusions could be reached only by clinical observations.

DR. W. A. DE WATTEVILLE thought that an important difference between the two methods, that illustrated in the Ketchum cabinet and that applied by Waldenburg's apparatus, was the difference in the influence produced on the circulation. In Waldenburg's apparatus it had been shown that arterial pressure lowered during the respiration of compressed air; while in the differentiation cabinet arterial pressure rose. He thought that this important difference in the physiological effects produced on the circulation showed that there was a difference between inhaling compressed air and inhaling air at ordinary pressure while the body was in a vacuum.

DR. PUTNAM-JACOBI had taken sphygmographic tracings, both before and after the inhalation of compressed air, and had found that the arterial pressure on the radial pulse was increased by the use of the Waldenburg apparatus.

MR. KETCHUM, in closing the discussion, said that Dr. Smith in his remarks had ignored the element of temperature and the question of dew-point.

With reference to the amount of total air during respiration, referred to by Dr. Putnam-Jacobi, he thought it was distinctly stated in his paper that while the initial inspirations ranged from twenty-eight to forty cubic inches, the succeeding inspirations were of no greater amplitude than normal, except that which was due to increased muscular effort, which would vary with different individuals. The expiratory effort was more forcible, as indicated by the manometric test, and it was so for several reasons, which time did not permit him to give.

The amount of condensation would vary with the specific gravity of the fluid and the amount of pressure employed.

The Section then adjourned.

ARTIFICIAL HIBERNATION.—Professor Gruselbache, of the University of Upsala, if the account be true, has evidently been studying "The Man with the Broken Ear," for he proposes to freeze somebody and keep him for two or three years in this glacial condition. He advertises for some obliging individual who will submit himself to the experiment, and promises to thaw him out, well in body and mind, whenever his friends desire. If he cannot find a volunteer he asks the Government to give him a condemned criminal. This would be an excellent plan for governments with large standing armies to adopt; they could keep their soldiers on ice at a slight expense, and then could thaw them out whenever war was declared. There are also numerous other directions in which this method could be applied, and it offers a solution for many perplexing problems of our age. Long live Professor Gruselbache—on ice.

THE RUDOLPH-STIFTUNG IN VIENNA.—The report of this hospital for 1884 shows a total of 8,042 patients treated during the year. Of this number, 4,677 were discharged cured, 1,377 improved, and 413 unimproved. The deaths numbered 894, and 681 remained in hospital on January 1, 1885.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COLLEGE OF SURGEONS — CONVOCATION OF THE UNIVERSITY OF LONDON—PROFESSOR JOHN WOOD ON ANTISEPTICS — DISEASES OF THE CIRCULATORY ORGANS IN ANIMALS — FRESH TITULAR DISTINCTIONS FOR THE MEDICAL PROFESSION.

LONDON, December 19, 1885.

ANOTHER meeting of the fellows and members took place at the College of Surgeons the day before yesterday. The resolution proposed by Mr. Timothy Holmes, Surgeon to St. George's Hospital, London, and seconded by Mr. Sampson Gamgee, of Birmingham, was carried by a large majority. This was expected, but there was some opposition, led by no less a personage than Mr. Brudenell Carter, who, to his other qualifications, adds that of a good speaker. The resolution which has been carried is the following: "That the answer of the Council is, in the opinion of the meeting, not satisfactory, and that the Council be respectfully requested to reconsider the questions—firstly, of the representation of members; and, secondly, of submitting for approval any alterations proposed to be made in the constitution, or in the relations of the College, or in any of its by-laws, to a meeting of the fellows and members." The Council of the College has shown itself such a conservative body that it is not much more likely to take any real notice of this resolution than it did of those carried at former meetings of the members and fellows in conclave assembled.

Meanwhile, it may be remarked that the College Council is not the only body opposed to change when affecting itself. The Convocation of the University of London, at its last meeting, showed pretty plainly that it wished to have nothing to do with the movement for promoting a teaching university or to institute any reforms in the existing university. At its last meeting it virtually stultified its previous action. One of the speakers (Dr. Broadbent, Examiner in Medicine), in moving the adjournment of the debate, remarked that his motion, if carried, would lead to the matter being dropped and nothing more being done, and even went so far as to say that this was most desirable. His co-examiner in medicine, Dr. Ord, is in favor of the new movement, though he did not speak at this meeting.

Professor John Wood, in his recent Bradshawe lecture, took up the subject of antiseptics. He is an earnest advocate for their use, and employed them in his wards at King's College Hospital before the advent of Lister to London. We are now so accustomed to the use of antiseptics in surgery that it seems impossible that their introduction can have been so recent. Professor Wood, however, and many of us who are even younger than he is, can remember the pre-antiseptic era. To go back to the time when, although known, antiseptics were far from being universally adopted needs no great effort of memory. Antiseptics have only been generally adopted in British surgical practice within the last ten—or, at most, fifteen—years. Their application to obstetrics is still more recent. Concurrent with the more general use of antiseptics has been the increased attention generally paid to hygienic measures. The importance of the latter as a factor in influencing the satisfactory progress and healing of wounds did not escape Mr. Wood in his recent discourse on the subject. "It is," he said, "in very great measure owing to the remarkable advance in this particular that so much improvement has taken place in longevity, in the rate of mortality, in the shorter duration of surgical complaints, and in the less fatal results of surgical operations during the last twenty years."

Hygienic precautions, strict cleanliness, and the proper application of drainage are placed by Mr. Wood in the fore-front of the precautions to be adopted by the surgeon. Coming to the use of appliances more strictly denominated antiseptic, the lecturer referred to the gradual abandonment by most surgeons of the spray and the gauze dressings, in which he was inclined to concur. Corrosive sublimate was favorably spoken of, but it was suggested that we need further experience to confirm its value. Mr. Wood then referred to some experiments he had lately been making with peroxide of hydrogen as an antiseptic. He employed it in aqueous solution. It was very active, and absolutely non-irritating. Its weak point was its instability. One part in two thousand prevented putrefactive fermentation and destroyed the activity of bacteria and micrococci. It was very convenient in its application. A piece of absorbent cotton was dipped into the solution, squeezed over the wound as a wash, and then laid upon it as a dressing. Over this a piece of thin gutta-percha tissue or oil-skin was laid, and covered with a layer of absorbent or salicylated cotton wool, and bandaged lightly. In deep sinuses and irregular wounds it might be used with a syringe or irritating apparatus and double tubes.

Comparative pathology at present possesses a most able worker in the person of Mr. J. Bland Sutton, of the Middlesex Hospital. Mr. Sutton's labors are unremitting. At the last meeting of the Pathological Society he read a paper on "Diseases of the Circulatory Organs in Animals." He has found lesions of the heart and vessels to be by no means of so frequent occurrence as in man. Pericarditis arose from the same causes, and was very similar to the same disease occurring in man. Galen, he remarked, described the first case of pericardial effusion, and it occurred in a monkey. The milk-white patch was frequent in some birds and monkeys as a consequence of pressure from rickets. Rickety deformities also led (through the pressure they caused) to a very serious condition of the heart, which might be denominated "flexion." Affections of the valves occurred occasionally, leading to incompetence and its results. Diseases of the vessels were very rare, especially atheroma. Arterio-capillary fibrosis affected the medium-sized arteries in horses and cattle, and was associated with chronic interstitial nephritis, as in man.

Amid the kaleidoscopic political changes going on around us, it is with some surprise that I have just seen the announcement of two fresh titular distinctions for the medical profession. Dr. G. E. Paget, of Cambridge, is to have a K.C.B. bestowed on him, and Dr. William Roberts, of Manchester, is to be knighted. Dr. Paget is Regius Professor of Physic in the University of Cambridge, and a brother of Sir James Paget, the eminent London surgeon. Dr. William Roberts is Professor of Clinical Medicine in the Victoria University. In neither case can the title of "Sir" enhance the distinguished professional reputation already enjoyed by each of these gentlemen.

OUR PARIS LETTER.

(From our Special Correspondent.)

ACCIDENTS FOLLOWING ANÆSTHESIA—THE PREVALENCE OF HYDROPHOBIA IN FRANCE AND PREVENTIVE MEASURES REGARDING THE SAME—THE ADVANTAGES OF THE SALICYLATE OF LITHIN—THE ACTIONS OF SOME OF THE NEW PURGATIVES.

PARIS, December 18, 1885.

AT a recent meeting of the Société de Biologie, M. Grehant read a paper for M. Lafont on the accidents following anæsthesia by pure nitrous oxide, or laughing-gas. It is known that this agent produces anæsthesia only by causing a veritable asphyxia, and that its employment is often followed by very grave accidents. Among the consecutive accidents observed by M. Lafont may be mentioned: 1. The death of a fœtus in a young woman enceinte five months, in whom anæsthesia was employed for the extraction of a tooth. The movements of the child ceased on the very day of the

anæsthesia, and the expulsion of the dead fœtus took place a month and a half after. 2. The appearance of albuminuria in a certain number of patients suffering from cardiac disease. 3. The suppression of the menses in a young girl who had just reached puberty. 4. The recurrence of epileptic fits in a young man who, after several years, had had no attack. Other cases occurred, but which need not be entered into here. M. Lafont, however, observes that there are numerous contra-indications against the employment of pure laughing-gas, and he thinks it advisable to give it up altogether in practice.

This note reminds me of a case that was lately tried at the Correctional Tribunal of Paris, at which a dentist, M. Duchesne, was condemned to pay three thousand francs damages and a fine of six hundred francs for having administered laughing-gas to a patient who went to him for the extraction of a tooth, and who, after a few inhalations, fell into a state of syncope and died. The dentist not being a qualified man must think himself lucky that he got off so easily; but what saved him was that Dr. Brouardel, the medical jurist, declared that he could not affirm that the death of the patient was caused by the anæsthesia. All he could say was, that the patient's blood contained a certain quantity of nitrous oxide, but that the fatty condition of the heart had a great deal to do with the accident.

Rabies, which, during the period from 1880 to 1884, diminished in Paris in a notable manner, had become more prevalent at the end of last year, and has continued with scarcely any abatement to the present time. From the commencement of the present year twenty cases of death from the disease have already been registered in Paris, and this figure is the highest that has as yet been attained. In consequence of the alarming increase of such a terrible malady, M. Leblanc proposed, at the meeting of the Academy of Medicine, last week, that the following measures should be carried out: 1. That the law of July 21, 1881, which prescribed the declaration of all cases of hydrophobia, the destruction of all animals bitten, the wearing by dogs of a collar of a certain kind, and the taking to the pound those that are found straying. 2. To render general and uniform the organization of the service of epizootics, and to place this service under the direction of veterinarians. 3. To cancel the adjournment of the article of the law forbidding empirics to treat animals affected with contagious maladies. To these propositions, which were unanimously accepted by the Academy, M. Le Fort added another compelling owners of dogs to attach to the collar a small medal bearing a mark showing that the tax had been paid for the year. All dogs not wearing these articles will be treated as stray dogs. M. Dujardin-Beaumetz, in supporting the conclusions of M. Leblanc's report, pointed out the difficulties in carrying out these regulations. M. Dujardin-Beaumetz has been charged for the last five years to search for cases of rabies among the population of Paris. In his report he observed that, as the spontaneousness of rabies is universally denied, the governing bodies are bound to enforce such police regulations as may be necessary to prevent the spread of the disease. It would appear that these regulations are strictly enforced in Germany, where hydrophobia is by no means so common as it is in this country, and even in Great Britain. According to M. Dujardin-Beaumetz's report, there were in Paris, in 1881, 17 cases of death from hydrophobia; in 1882, thanks to the measures that had been taken, there were 11, and in 1883 there were only 6. In 1884 no case of the disease occurred in the first half-year; in the second half 3 cases were reported. In 1885, 20 cases have been registered to the present date.

Since the above communication by Dr. Dujardin-Beaumetz, this physician made another report to the Council of Hygiene of the Seine, to the effect that a case of death from hydrophobia recently occurred at the Hôtel Dieu, and that he had reason to believe that the disease came on spontaneously, as the body bore no marks of having been bitten. The patient was, however, epileptic, and this circumstance would tend to infirm Dr. Dujardin-Beaumetz's conclusion, though the patient denied having ever been bitten. Nevertheless, experiments performed by M. Pasteur on two rabbits which he inoculated with fragments of the medulla oblongata of the patient proved that the latter died from hydrophobia.

At a recent meeting of the Academy of Medicine, Professor Vulpian read a paper on the advantages of the salicylate of lithin in the treatment of rheumatism, whether it be acute, subacute, or chronic. He has found it most useful in cases where the salicylates of soda and quinine failed to effect a cure. Moreover, the inconveniences caused by these drugs are scarcely perceptible in the administration of the salicylate of lithin. It is given in large doses, the same as is done with the salicylate of soda.

At the same meeting, Dr. Desnos, candidate for the membership of the Academy in the section of therapeutics, read a paper on the action of some of the new purgatives brought to notice by Professor Rutherford, of Edinburgh; but while the latter physician experimented on animals, Dr. Desnos submitted the new drugs to clinical experiment. These are sanguinarin, bactisin, juglandin, and phytolaxin. These substances are resinous, and are employed in doses varying from 10 to 60 centigrammes. The effects of the first are nearly *nil*, those of the other two are more certain, while the phytolaxin, in particular, is considered a great acquisition to therapeutics.

CONCERNING THE DISINFECTION OF RAGS.

To the Editor of The Medical Record.

Sir: Mr. Augustine Smith, in his letter anent the disinfection of rags, published in your issue of this date, makes several statements reflecting upon his namesake, the Health Officer of the Port, which, in the interests of justice and of public health, require correction. His first complaint, that rags are to be disinfected "to the satisfaction" of the Health Officer, rather than to that of the importers, would scarcely seem to a professional mind to involve such very improperly "arbitrary power," even if it were strictly in accordance with fact, forasmuch as the said Health Officer is held responsible for the satisfactory exclusion of infection; but, in reality, the rules adopted by Dr. Smith are those which were unanimously formulated by a conference of sanitarians, held at the request of Dr. Smith himself, in his reluctance to exercise his undoubted authority in any way which might seem to inflict hardship upon the rag importers without the concurrence of other representatives of preventive medicine, and of the quarantine establishments of different ports. No one at that conference supposed that the manufacturers of paper "wish to import disease" any more than the opponents of vaccination wish to diffuse small-pox; but it did not occur to them that these manufacturers of paper were the best and most unbiased judges as to either the desirability of disinfection or the most efficient process of performing it. Furthermore, whatsoever may be Mr. Smith's doubts or opinions on the subject, statistics show that there is danger of the importation of infectious disease by rags, and experiment demonstrates the possibility of "thorough disinfection," even in the bale, and it is hardly consonant with the principles of sanitary administration to wait until a suspected article "can be shown to be infected" before taking precautions to render it innocuous. The circumstance that rags may be shipped from a port free from epidemic disease is no evidence that they have not been gathered from infected districts, as every one familiar with the practices of the ubiquitous nomadic "chiffonier" must be aware; and if the public insisted on the importance of promiscuous disinfection of the mails from Canada last summer, it is not likely that this same public will regard as an "out-

rage" any measures to guard against the risk of infection from rags which may, even by remote possibility, have been cast out, soiled, from a sick room or a hospital ward.

Mr. Smith omits to state that the methods of disinfection recommended were to apply to rags which had not been disinfected before exportation, and that several processes were mentioned which should be regarded as "satisfactory" if done abroad, and certified by a responsible person to have been done.

It was, in the opinion of every one present at the above-mentioned conference, to be regretted that what had been shown to be an effective apparatus for the disinfection of baled rags was covered by a patent; and it is still to be regretted that where the safety of the whole community is concerned the Government cannot either purchase the patent or defray the cost of protecting the public health in this as in other respects; but Mr. Smith's allusion to an imaginary "quarantine ring," which by implication must embrace the health authorities of other ports, as well as a number of representative sanitarians in different parts of the country, is as absurd as it is spiteful.

I am, Sir, yours, etc.,

ALFRED LUDLOW CARROLL, M.D.

NEW BRIGHTON, December 26, 1885.

THE EARLY USE OF IRON IN DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Winter's article on diphtheria, in your last issue, is a notable exception to the all-pathological, all-etiological style of most of the great writers who spare the time to write for medical periodicals, and I for one thank him for it. He mentions Dr. Heslop, of England, as the first to recommend the iron treatment in this particular disease, and also alludes to the immense doses given by different observers. Dr. C. D. Parke, of this city, is perhaps the first physician on this continent who demonstrated the virtue of this treatment, and his success was so great from the first, that to this day he is called the diphtheria doctor by the public, who are always quick to appreciate and reward success. He began his treatment about the same time (1858 and 1859) that Dr. Winters credits Dr. Heslop with having introduced it in England, wholly independent of any previous knowledge of its use. His observations led him to consider diphtheria allied in nature to erysipelas, which was prevailing also about that time. His success has been remarkable: from that day to this, nearly thirty years, during which time he has been engaged in active practice, he has only lost one case—one which obstinately refused all medicine—and has treated, perhaps, more cases than any physician in this section of the country. Strange to relate, he lost a child of his own with this disease, under the treatment of other physicians, to whose care he consigned it; but this case was one of laryngeal diphtheria. He has had no cases of laryngeal diphtheria in his own practice, which he attributes to the early and rapid use of iron—tincture of iron (which he has used in this disease for nearly thirty years), in large and hourly doses, ten to forty drops, with equal quantity of chlorate of potassa in syrup of acacia and water, or glycerine and water. He does not term primary cases of pseudo-membranous croup as diphtheria, nor has he had to treat any such cases. That we have diphtheria here, in severe types, too, there is no sort of doubt, as the sequels show. I have to-day a patient who has been convalescent from this disease for more than a month, who speaks with great effort, from paresis of the soft palate; who cannot see the figures on the clock-dial, and whose heart beats so feebly that he has fainted four times in the past month from too great fatigue in sitting up, contrary to my orders. I have seen in the last five years three deaths from cardiac paralysis, due to ignorance or neglect in the matter of convalescence in this disease. I have written you this letter for what it is worth, and I think all such data are worth something. That the physicians of this city are more than ordinarily successful in the treatment of this disease I am firmly convinced, both from ample experience in the observation of its ravages North and South, and also from written reports. Dr. F. M. Peterson, of Greensboro', in this State, also independently worked out this treatment, and has been eminently successful in his practice. Dr. Parke, and the remainder of us following in his lead, give calomel at first as a purge, then iron every hour—in bad cases, night and day—followed at once by a drink of rich, sweet milk; and if the membrane do not extend to the larynx, and the patient do not get up too soon, they get well; no matter how bad matters look, they get well. I have seen the pulse in children drop to fifty-eight beats to the minute, and stay there for days and days, and yet get well.

Strange to tell, and unjust to himself, Dr. Parke seldom, if ever, writes for publication; he does not bother his brains much about bacteriology, but he certainly knows how to cure diphtheria.

If this is worth the space, please do justice to this worthy and useful man, who still works in the harness at a ripe and honored old age. Very truly yours,

F. TIPTON, M.D.

SELMA, ALA., December 16, 1885.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 27, 1885, to January 2, 1886.

MADDOX, THOMAS J. C., First Lieutenant and Assistant Surgeon. Killed, December 19, 1885, in affair with Apache Indians, near the White House, New Mexico.

IVES, F. J., Assistant Surgeon. Ordered to report to Commanding Officer, District of New Mexico, for duty in the field. S. O. 127, Department of the Platte, December 23, 1885.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 2, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
January 2, 1886.....	3	5	27	4	14	74	3	0
Deaths.								
January 2, 1886	2	1	4	4	1	32	1	0

HINTS ON THE TREATMENT OF PERSISTENT CONSTIPATION.—*The Lancet* publishes the following letters from various correspondents giving suggestions for the treatment of constipation:

SIR: In reply to your correspondent, "Physician," who asks in your last issue for some hints on the treatment of persistent constipation, I beg to suggest a plan which I found entirely successful in a case which I had recently under my care. The patient, a young man aged twenty-three, had suffered for six months from most obstinate constipation, for which he had tried numerous remedies, but without relief. At the time he came under my care he usually only had a motion, and that a scanty one, once in every week or ten days. I ordered ext. cascaræ sagr. liq., ʒj.; tr. nucis vom., ♏x.; tr. belladonnæ, ♏v.; to be taken in water every night and morning; the abdomen to be rubbed firmly from right to

left for ten minutes every morning, and the diet to consist largely of porridge, brown bread, and stewed fruit, with entire abstinence from tea. Four hours after the second dose of medicine had been taken he passed a most copious motion. At the end of a week, as the bowels had acted each day, the dose was reduced to half, and continued for another fortnight, by which time he was quite cured. T. L. KENRICK DAVIES, M.B.

SIR: In answer to "Physician," I write to say that I have found the following prescription most successful in some cases of the above complaint: ℞. Tr. nuc. vomic., ♏ 100; tr. calumb., ʒ iv.; ammon. carb., ʒ ss.; sp. chlorf., ʒ iss.; dec. aloes co., ℥ j.; aq. camph. ad ℥ viij.: an eighth part to be taken two or three times a day, the first dose being taken each day about an hour before breakfast. I am aware that your correspondent says he has already tried strychnine, but possibly he may not have done so in the above combination.

W. L'HEUREUX BLENKARNE.

SIR: Let "Physician" administer to his patient every night, or, if necessary, night and morning, a pill containing one-sixth of a grain of extract of belladonna and half a grain of sulphate of zinc. I feel sure he will be more than satisfied with the result. ARCHD. HAMILTON.

SIR: I would recommend "Physician" to try either one-grain pills of pil. aloes glacialis or the mist. cascara sagrada comp. in teaspoonful doses. Both can be repeated at frequent intervals.

J. G. BRADEN, M.R.C.S.

SIR: If "Physician" will give ʒ ij. ol. ricini, ʒ ij. glycerinæ, and ʒ ss. q. ext. cascara (Battley & Watts) every night at bedtime, he will find the action all he could desire. LARD.

THE PROPORTION OF SURGICAL OPERATIONS THAT ARE NECESSARY.—Of one hundred possible operations, twenty are imperatively necessary, twenty are absolutely inadmissible, and the remaining sixty may be performed or not according to circumstances; and surgeons may and do err in each of these classes of cases.—PROF. VERNEUIL.

WHEN SPECTACLES SHOULD BE USED.—When we are compelled to remove small objects a considerable distance from the eye. When we find the light insufficient. When the object appears blurred, cloudy, or has a mist before it. When the letters of a book run together or appear double or treble. When the eyes become fatigued after reading or other exercise. These rules answer in many cases, but not always. Never choose a pair of spectacles when the eye is fatigued. Wait an hour or two, after you can be better suited. The tired eye needs rest, not glasses, and if they are purchased when the eye is excited or tired, errors are certain to occur in selecting the proper glasses. Wait patiently for an hour or two, or better still, three.—*The Medical Summary.*

POP-CORN AS AN ARTICLE OF DIET.—It is said that chemical analysis of pop-corn shows it to contain more albuminoids than most of the other cereals, and in certain parts of the West it is extensively used as a regular article of food. Our Pilgrim Fathers made some personal experiments with pop-corn, the result being that they started a Day of Thanksgiving for not having to live on it any longer.

A SURE CURE FOR HYDROPHOBIA.—An enterprising physician has secured for himself a thirty days' advertisement on the editorial page of *The Sun* in exchange for the following remedy, which he asserts cured one terrible case of hydrophobia: ℞. Potass. iodid., ʒ iij.; tinct. cinchonæ, ℥ ij.; syr. simplicis, ℥ iv. Sig.: A tablespoonful after each meal for an adult; for children, from one-half to two teaspoonfuls. He takes the wise precaution, however, to cauterize the wound with nitric acid. He does not say whether the simple syrup or the cinchona is the active agent.

WHAT THE PROFESSION NEEDS.—"A full one-half of the young men who come to Philadelphia to study medicine should be turned face about and sent to a village school. The place to intercept incompetents is at the entrance of the medical schools, rather than at their exit."—*Dr. J. E. Garretson.* "The profession is now thoroughly awakened to the necessity of arresting the course of the schools that are annually sending forth thousands of improper persons to practise on the community. . . . The diploma of schools should be beyond suspicion. The signatures should do more than convey the mere intelligence that the holder of a certain certificate has paid his money for two courses of lectures and thirty dollars for the engrossed parchment attesting the same. It does little more just now."—*New England Medical Monthly.*

A SIMPLE EVAPORATOR.—Dr. Cheize, in the *Glasgow Medical Journal*, writes that, wishing to remove an ingrowing toe-nail, and being without a spray-producer, he covered the toe with a pledget of the size of a crown-piece, poured ether on it, and evaporated this by means of a pair of bellows; in five minutes anæsthesia was complete, and lasted while the nail was removed and the matrix seared with the actual cautery.

IODOL—A SUBSTITUTE FOR IODOFORM.—To the progress of synthetical chemistry we owe an addition to our present list of local antiseptics which, if on further trial it be found to bear out the promises made for it by its discoverers, bids fair to take the place of iodoform altogether. Iodol, the substance referred to, is a dark powder obtained from "Dippel's animal oil." It has but little smell, and is soluble in three parts of absolute alcohol, but only in 5,000 parts of water. More than two hundred observations on various diseases have been made with it in the Royal Surgical Institute in Rome. It was used in substance, suspended in glycerine, dissolved in alcohol with glycerine, and as ointment. Chancres were washed with distilled water, very carefully dried, and sprinkled with iodol in powder, and covered with silk protective, the dressing being changed daily. In six days' time the base of the chancres began to granulate, and the edges to show signs of commencing cicatrization. Similar treatment was adopted in the case of open buboes, which very soon began to exhibit a healthy appearance, and in a short time healed up. In many cases of simple indolent ulcers iodol was equally valuable, the whole character of the sore becoming changed after a few applications. Neither erysipelas nor diphtheritis was ever observed in cases treated with iodol.

POST-MORTEM MUSCULAR MOVEMENTS.—At a recent meeting of the Biological Society of Paris, M. Brown-Séquard related some experiments he had made, by means of a special instrument, to determine the movements of single muscles in the body after death. He had found that there was a very considerable degree of contraction and relaxation, as much, for example, as 2½ mm. in a muscle measuring only six millimetres in length. He thought that the results of his experiments disproved the theory of coagulation in the muscular tissue as the cause of cadaveric rigidity.

THE DRY TONGUE IN FEVER.—Dr. Cotter writes in the *Indian Medical Gazette*, that he has had great satisfaction with the use of glycerine painted over the tongue in fevers. It keeps the organ moist and removes the sensation of great thirst and discomfort caused by a dry and foul tongue.

THE ACTION OF HOT BATHS.—Dr. Livierato states that the temperature of the body may be raised from 3° to 5.5° F. by immersion in a hot bath. This elevation may be maintained for nearly an hour if the patient be wrapped in blankets. Not only is the body-heat raised, but the amount of urea excreted in the twenty-four hours may be increased as much as 90 grains above the normal.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 3 NEW YORK, JANUARY 16, 1886 Whole No. 793

Original Articles.

ON THE RELATION OF LITHÆMIA, OXALURIA, AND PHOSPHATURIA TO NERVOUS SYMPTOMS.[1]

WITH A DESCRIPTION OF AN APPARATUS FOR ESTIMATING THE RELATIVE AMOUNTS OF PHOSPHATIC DEPOSITS AND OF URIC ACID IN THE URINE.

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EVERY one must feel that it is very desirable, in certain chronic functional nervous disorders known clinically as nervous asthenia, hypochondriasis, spinal irritation, etc., to get hold of something objective, some actual evidence of diseased action. In these conditions we have generally to rely upon the patient's statements, and to base our diagnoses on a clinical picture as set forth by a highly awakened imagination. We need something more tangible than this, and physicians have, therefore, turned to the kidneys as likely to furnish a more definite secretion to work upon than does the cerebrum. The results have been to find that with these symptoms of nerve irritability and exhaustion there is often some peculiar condition of the urinary secretion. The terms applied to these conditions are glycosuria, oxaluria, phosphaturia, and lithæmia. There has also been observed, in very rare instances, an excessive excretion of urea, which is called azoturia.

For some time I have been studying the subject of the relation between these urinary disturbances and nervous symptoms. I have tabulated notes of one hundred and ten cases, in most of which the condition of the urine was examined, and in thirty-one of which careful analyses to determine the amounts of uric acid, oxalic acid, phosphates, and sugar were made.

In order to support what conclusions I have been able to make, I shall have first to discuss briefly the state of our present knowledge regarding the urinary disorders referred to.

Oxaluria is a term first given by Dr. Prout to indicate an excessive discharge of oxalic acid in the urine. Dr. Prout, and later, Dr. Golding-Bird, held that there was a true oxalic-acid diathesis. It was characterized by flatulent dyspepsia, melancholia, and nervous irritability and depression. The views of these physicians have been denied by later observers, including Drs. Owen Rees, Beneke, Seligsohn, Bence Jones, and Dickenson. Of late, however, the older view has been revived by Professor A. Cantani, of Naples, who claims that there is not only an oxaluria but an oxalhæmia.

The facts seem to be that oxalic acid, in the form of oxalate of lime, is frequently excreted in normal urine. According to Schultzen it is excreted to the amount of 0.07 gm. daily. A pathological increase occurs in conditions of increased acidity favoring the deposition of urates, and in these cases some of the oxalic acid is formed from the urates. *Oxaluria is oftenest only an indication of lithiasis.* It is also found, however, whenever earthy salts are excreted in excess, and Dickenson thinks that its presence indicates an excessive loss of earthy salts. It is often associated with diabetes. It appears to me that we can discard the term oxaluria altogether, for when oxalate is found continuously in excess in the urine, careful examination will show either an over-acid urine and urates, or sugar; while, on the other hand, when earthy salts are passed in large amount, and some oxalates are formed, they have of themselves no significance (Dickenson). At the same time there are, perhaps, occasional cases of true oxaluria. Thus Furbinger (*Deut. Arch. f. Klin. Med.*, Bd. xvi., p. 500) reports a case in which there was alternately glycosuria and oxaluria. Others have at times reported cases in which there was simply an excess of the oxalate without any excess of urates or phosphates, and without sugar (Dr. C. N. Durselen, *Cin. Lancet and Clinic*, 1884, p. 683). The positive views of Cantani as to the existence of an oxaluria, appear to be not well substantiated. I have not seen his original work, but from a digest of it by Seligsohn ("Eulenberg's Real-Encycl.," Article "Oxaluria") it would appear that his assertion as to an excess of oxalate of lime in the blood was based on a single examination, and that his cases of oxaluria were really cases of lithæmia, or of excessive loss of earthy salts. I have not met with any case which I could positively speak of as one of oxaluria.

The relation of lithæmia to nervous symptoms is a most interesting one. Many writers, from Aretæus down, have called attention to the gouty nature of various severe nervous symptoms, more especially, perhaps, of those of hysteria. (Whyth, Laycock), hypochondriasis (Handfield Jones), and neuralgia; and Laycock in particular ("Nervous Diseases of Women," pp. 165, 166) seems to aim to show that hysteria in woman is much the same thing as gout in man. Trousseau refers to the relations between gout and hysteria. Indeed, a long list of authors could be cited who have dwelt upon the relations between the gouty dyscrasia and nervous diseases (*vide* Laycock, *loc. cit.*). With the decline of the humoral pathology the importance of these dyscrasiæ, or toxic conditions of the blood from defective metabolism, was somewhat lost sight of. In 1881 Dr. Da Costa (*American Journal of the Medical Sciences*, October, 1881) called attention to certain clinical facts bearing on this subject. These were, that persons of a lithæmic tendency and history, persons who had a latent gouty disposition, occasionally passing urates in excess, might suffer from a long train of distressing nervous symptoms, such as objective vertigo, periodical headaches, neuralgias, cramps in the legs and muscular twitchings, pains in the fingers, parasthesia, insomnia, great nervous irritability, lassitude, melancholia, and even hysteria. Dr. Da Costa ascribes these symptoms to the irritant action of the over-acid blood, and called the disorder not "American neurasthenia," but "American gout." I am not aware that subsequent writers have brought forward any distinct evidence in support of these views, but they have, I believe, been quite widely received and adopted.

I have myself made many examinations in order to corroborate them, if possible. In about one-fifth of those cases, showing exaggerated nerve-irritability, I have found some evidence of over-acid urine, with excess of urates, and in the majority of these have caused great benefit by the adoption of anti-lithic treatment. Sometimes, even when the urine was cloudy and feebly acid, I have found that there was in reality a small amount of phosphates and an excess of urates.

[1] Read at a meeting of the Practitioners' Society of New York, December 4, 1885.

I have a striking illustration of this. A married woman, fifty years of age, came to me complaining of great nervousness, confusion of mind, irritability, and depression. She had no organic disease anywhere. Her father died insane, her mother was rheumatic. Of seven brothers and sisters nearly all were rheumatic, but had no nervous troubles. She herself had never had acute rheumatism, but at the time of her visit she had some muscular pains. Her urine was cloudy with phosphates, neutral. On precipitation with Teissier's solution, I found the phosphates below the normal, the urates on the first test acid, sp. gr. 1.022, with an excess of phosphates and a slight excess of urates. Under bicarbonate of potassium his symptoms improved remarkably.

In none of my cases have I been able to get the slightest evidence of developed gout. The histories were sometimes those of rheumatism, either personal or hereditary. In other cases no well-marked gouty or rheumatic history was obtained, and yet there was at times excess of urates.

So far as my experience goes, I cannot see on what ground the term gout is used in connection with these

ILLUSTRATIVE CASES.

	Patient.	Symptoms.	Condition of Urine.	Treatment.	Result.
1	Mrs. H——, aged thirty-two.	For a year has had gastric distress from dyspepsia; constipation; vertigo; headaches and neuralgic pains; morbid fears and very great nervousness; has had one hysteroid convulsion; lacerated cervix.	Urine evening and morning, 1.030, cloudy, acid; urates in great excess, phosphates normal or below average (three examinations).	Diabetic diet. Powders of pepsin, soda, and capsicum; pil. hydrarg. twice weekly.	Great improvement; subsequent relapse, followed by improvement under potas. bicarb.
2	Mrs. M——, aged thirty-eight.	Several years ago had "oxaluria," now has great nervousness, irritability, and mental depression; flatulent dyspepsia of severe type; constipation; epigastric distress; vertigo; periodical headaches; insomnia; chronic bronchitis.	Urine cloudy, acid; excess of urates.	All forms of medicine, such as acids, alkalies, bitters, made her worse; under a meat and milk diet, six light meals daily,	She improved vastly, and wrote me she felt very well.
3	Mrs. W——, aged thirty.	Has been extremely nervous; has morbid fears, vertigo, headaches; a moderate degree of dyspepsia.	Urine dark, acid, 1.028; urates in excess, phosphates average.	Meat and milk and green vegetables; pil. hydrarg. twice weekly, potas. et ferri tart.	Very great and immediate improvement.
4	Mrs. A——, aged twenty-eight.	Very nervous; left intercostal neuralgia; palpitations; slight dyspepsia.	Urine light, cloudy, acid, 1.018; no sugar or albumin; phosphates below average, urates very excessive.	Nitrogenous diet.	Improved.
5	Mr. K——, aged twenty-eight; single; accountant.	Spinal pains and weakness; easily fatigued; can't concentrate thoughts; has had to give up business; cold hands; anæmia; some dyspepsia; occasional emissions.	Urine clear, acid, 1.030; no sugar or albumin; urates in excess, phosphates normal (eight trials).	Nitrogenous diet; Blaud's pills; mercurial laxatives.	No improvement; urates disappeared.
6	Mr. S——, aged thirty-five; married.	Has had several attacks of acute rheumatism; has a mitral lesion; of late has periodical headaches (vertical); insomnia or bad sleep; great mental irritability and depression; nervousness; slight dyspepsia; sometimes has muscular rheumatic pains.	Urine clear, acid, 1.024; urates in slight excess, phosphates average.	Potas. bicarbonate.	Very great improvement.
7	Mr. C——, aged forty-five; married.	Father neuralgic; has had severe malarial poisoning and ague-cake; in late years has had three severe falls (from a wagon); has had no rheumatism or gout; now has tender and painful spine; muscular pains and soreness; tinnitus; bad sleep; very nervous, excitable; worried at times; easily tired; can't exert mental faculties.	Urine clear, acid, 1.024; urates in excess, phosphates average; no sugar or albumin.	Bicarbonate of lithia and potas.; blister to spine; rest.	Great improvement.
8	Mrs. D——, aged forty-five.	Mother rheumatic, and all the eight brothers and sisters rheumatic; father died insane; patient never had rheumatism; of late very nervous, excitable, hysterical; confusion of mind; loss of memory; some rheumatic pains in shoulders and legs; anæmia; dyspepsia; has been treated for prolapse and anti-version of uterus.	Urine very cloudy; excess of urates was very marked (two tests), phosphates below average.	Nitrogenous diet; laxatives, Blaud's pills or tartrate of iron and potas.	No improvement at all.

slightly in excess; another test showed a greater excess of urates. She did not improve much on acid tonics and bromides, but improved, though temporarily, on Blaud's pills and on alkaline salts.

A professional gentleman, aged about thirty-three, who had had several attacks of acute rheumatism, came to me complaining of what he called cerebral neurasthenia. He was a man of strong physique, ruddy complexion, and full habit. He had a mitral lesion as the result of his rheumatism. He complained of periodical headaches, parasthesia, vertigo, lassitude, great mental irritability. He had at times passed urates in excess. His urine was

cases. It is well known that many persons live on the verge of a gouty paroxysm for years, and yet have no marked nervous symptoms. Dr. Murchison, in his description of lithiasis, does not describe the nervous symptoms of latent gout, although England is full of it. Both Anstie and Eulenberg speak in most positive terms against there being any causal relation between gout and neuralgia.

It is probable that we see here again the running together of the nervous and rheumatic diatheses, or at least that we have a dyscrasia which is not identical with that of gout, though allied to it.

All the same the view of a humoral origin of certain chronic nervous disorders is a fruitful one, from a therapeutic stand-point, and Dr. Da Costa has done great service in recalling attention to it. My experience so far teaches that in a good many cases of neurasthenia, especially of the gastric type, of hysteria, of spinal irritation in its lighter forms, and, in general, of great nervous irritability, there is an unsuspected excess of uric acid in the urine and blood, or, perhaps, some latent rheumatic taint. Treatment addressed to this will often succeed in giving prompt relief.

The subject of phosphaturia, so-called, is in a state of some confusion. Here again it was Dr. Prout who first associated a tendency to the deposition of earthy phosphates in the urine with conditions of depression and nervous irritability. Dr. Hassell also attributed grave constitutional symptoms to the precipitation in the urine of the crystalline phosphate of lime. Subsequent observers, however, and especially Bence Jones, have shown that in these cases of cloudy urine with deposition of phosphates the trouble is generally due to a diminished acidity of the urine, and not necessarily to excess of the salts. Any urine that for some cause becomes alkaline becomes cloudy and deposits its phosphates. It has been further shown that both an increase in the earthy phosphates and a diminution in the acidity of the urine can be caused merely by changes in diet, by acute, exhausting diarrhœas, or even by temporary attacks of indigestion.

So that of late it has been generally taught that there is no such thing as phosphaturia, or the phosphatic diathesis, but that this was all simply a question of diet and digestion. Dr. Dickenson, while admitting this view, still thinks that there is a condition of exaggerated nervous mobility, irritability, and exhaustion associated with the discharge of an excess of earthy salts. The urine here, he says, is not generally turbid, however, but is clear and yellow. It may even be extremely acid and scalding. There are rarely any deposits except occasional lithates or oxalates. The patients suffer from obscure arthritic pains, vertigo, parasthesia, tinnitus, melancholia, and their condition is often suspected to be one of latent gout. Yet they are made worse by salines, and generally improve under strychnia and mineral acids. Dr. Dickenson appears to be describing, under the head of phosphaturia, a clinical condition surprisingly like that described by Dr. Da Costa under the head of lithæmia or American gout. It is to be greatly regretted that neither of these observers gave comparative estimates of the amount of the earthy salts and of the urates.

In my own experience I do not find that in a majority of cases of nerve-irritation and depression there is any great and persistent excess of the total phosphates excreted, though there is often a diminished alkalinity and cloudy urine. It is a common observation that persons who suffer from dyspepsia and nervous asthenia, will pass cloudy urine after some unusual amount of mental work and worry, or after some dyspeptic attack.

Sometimes these cloudy urines really contain an excess of phosphates, but I have not yet found that it is the rule. My observations on this point are not finished.

As to the significance of those disturbances of the urine, my own opinion is that this so-called phosphaturia, when it occurs, is the result either of a peculiar diet, or of an indigestion due, perhaps, to insufficient innervation of the digestive organs, just as glycosuria and lithæmia may be due to insufficient innervation of the liver.[1] The careful experiments of Mairet (*Archives de Neurolog.*, January, March, and June, 1885) have shown that intellectual work and pathological irritations of the central nervous system slightly increase the excretion of the earthy phosphates, but do not especially change the excretion of the alkaline phosphates.

Treatment, directed to the nerves and stomach (strychnia, mineral acids), will usually very quickly relieve phosphatic urine.

From what has been said it is apparent that it is of the highest importance that the practising physician make himself acquainted with the condition of the urine as regards its phosphatic salts and its uric acid.

Certainly no case of chronic functional nervous disorder can be intelligently treated without such examination.

Here is a case in point: M. H——, aged thirty-two, married, suffers from frequent vertiginous attacks, periodical headaches, great nervous irritability, hysterical crises. Has a badly lacerated cervix. Had been long treated by various measures in vain. A gynecologist at last said she must be operated upon for the laceration.

I found the urine very acid, cloudy with urates (in four specimens). Treatment addressed to this (alkalines and stomachic tonics) gave her not perfect, but very great relief.

In order to facilitate the making of the proper urinary examinations, I have devised an apparatus which enables one with very little trouble to get an approximate idea of the relative amounts of phosphates or of uric acid.

I have several small glass tubes, thirty inches long, one and an eighth inch in external circumference, enlarged at the ends in a funnel shape, and stopped at one end by a rubber cork. These are graduated to fifteen and twenty-five cubic centimetres.

I have taken an artificial solution of triple phosphates of the strength of the average urine (0.5 per cent.), and precipitating the salts have marked the upper line on the tube. I have also, in a large number of cases of normal urine, obtained about the line of an average precipitate of phosphates.

In order to precipitate all the phosphates, both earthy and alkaline, I fill the tube with a definite quantity of urine, and then add Teissier's solution to saturation.

℞.	Aquæ destillat.....	80.0
	Ammon. chlorid.....	20.0
	Aq. Ammoniæ, fort.....	20.0
	Magnes. sulph.....	20.0
M.		

One cubic centimetre of precipitate equals about 0.63 of phosphates per litre.

The solution should be renewed occasionally, as it loses some of its strength in standing.

If one wishes to precipitate only the earthy phosphates, he adds simply ammonia. Afterward he can add Teissier's solution, and observe the amount of alkaline phosphates. By this method one can very readily and quickly recognize approximately an excess in phosphate deposit as a whole, or in earthy deposit.

Despite a great deal of experimentation I have not been able to find any better ready test for the uric acid than that by hydrochloric acid.

To determine the amount of the uric acid, therefore, I

[1] NOTE ON THE SEPARATION OF A NEW CLASS OF NEUROSES.—It is well established and uniformly taught that the nervous system holds under control the functions of motion in muscle, of secretion in glands, of nutrition in nerve, muscle, one, skin, and probably all tissues; of cardiac action and blood-supply, and, nally, that upon its integrity depends the function of sensation and reflex action.

Hence pathologists classify symptoms of functional disorders into:

1. The motor and vaso-motor neuroses, *e.g.*, paralyses, spasms, etc.

2. The trophic and secretory neuroses, *e.g.*, progressive muscular atrophy, certain skin eruptions, hyperidrosis, etc.

3. The sensory neuroses: neuralgia, hyperæsthesia.

There are certain disorders of assimilation in which metabolism does not go on roperly. They are conditions which sometimes come on when the nervous system s poisoned, exhausted, or asthenic. They are caused most likely by the nervous centres not giving to the special metabolic tissues the normal tonic and regulatory impulses. There is in consequence a "metabolic" disorder; just as from deficient innervation there is motor weakness or some secretory disorder. In fine, we have a fourth class of the neuroses, the *metabolic neurosis*. Glycosuria, lithæmia, azoturia, and perhaps "phosphaturia," are included in this head.

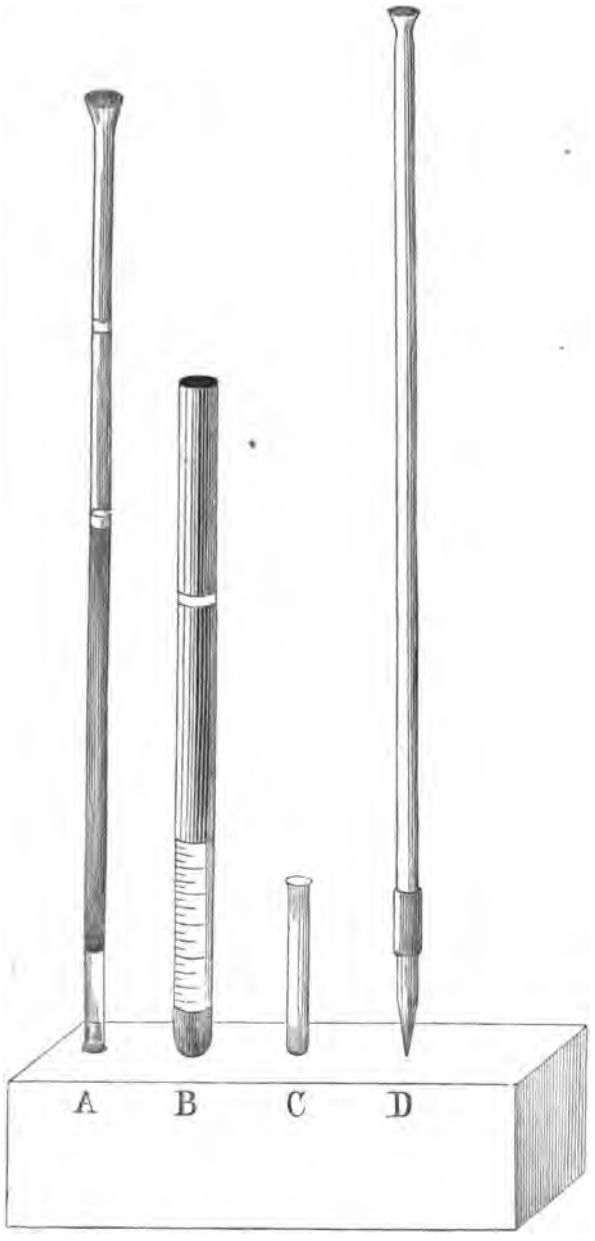
I believe there can be no valid objection to the view thus presented. It is a fundamental law of biology that the nervous system in the higher animals controls and regulates all the different bodily functions. The function of metabolism is the oldest in the history of animal life, and though not sharply specialized and relegated to a high organ, it is nevertheless a perfectly differentiated function.

Metabolism and tissue-nutrition are not identical, although in its broadest sense metabolism includes nutrition. But in the more special sense, in which I use it, it refers to the luxus-consumption of material that circulates in the system, never going to form tissue; the process that is most active in the liver, spleen, and in adenoid and adipose tissue, to all which Foster gives the name metabolic.

A metabolic neurosis, like glycosuria, is a very different thing from a trophoneurosis, like a spinal arthropathy or a skin eruption.

fill the tube with 15 c.c. of urine, and add 10 c.c. pure muriatic acid, then let it stand for twenty-four to forty-eight hours in a cool, dark place. Normally the amount of uric acid in 15 c.c. of urine is between gr. $\frac{1}{12}$ and gr. $\frac{1}{16}$. This, when precipitated, makes only a few dark specks at the bottom of the tube.

By making a solution of uric acid of the same strength as that of the urine, and then precipitating it, and by numerous tests with healthy urine, I get a very fair idea of the appearance of a normal precipitate. It is an excess when the whole bottom of the tube is covered, and even in clear urine I have seen the precipitate reach $\frac{1}{16}$ of an inch in depth, measured along the tube.



A is the tube ordinarily used; D, one with a funnel-shaped end jointed on; B, a large tube for the quicker estimation of uric acid; C, is an ordinary test-tube.

In order to get, if possible, a more accurate measure, I had a funnel-shaped point jointed on the tube instead of a simple cork. This did not seem to work so well.

I am quite aware that the muriatic-acid test is said not to be very accurate, but it seems to me to answer all the purposes, and I find that, used in the long tubes, kept standing erect in the dark and in a cool place, I have no difficulty in getting a precipitate. In test solutions of uric acid I get nearly or quite all of the acid precipitate.[1]

[1] These tubes can be obtained of Mr. T. H. Smith, corner Forty-Sixth Street and Sixth Avenue, Sayre's Pharmacy.

By the systematic use of these two tests, which should always be applied several times in each case, using both morning and evening urine, I believe that much help can be obtained in diagnosis and in the treatment and general guidance of the patient. If a persistent excess of phosphates is found without any excess of urates, the use of mineral acids and strychnia will be very surely beneficial. On the other hand, it is very likely that one reason why acids sometimes fail to relieve cases of apparent phosphaturia is that this condition does not really exist.

If acid urine, with high specific gravity, and excess of uric acid are found, a nitrogenous diet, alkalies, cholagogues, stomachic tonics, and stimulants are indicated. Sometimes diet alone is sufficient, and drugs are not tolerated.

It is to be borne in mind all the time that occasional deposits of urates may be due simply to cold weather and digestive disturbances, and may mean nothing.

In conclusion, I would sum up my remarks as follows:

1. There is no such thing as a lithæmic or uric acid diathesis, or as an oxalic acid or phosphatic diathesis.

2. There are, however, morbid conditions of the nervous system which are associated with excessive acidity of the urine and excess of uric acid in the urine. The morbid nervous symptoms in these cases are those of gastric neurasthenia, lighter forms of spinal irritation, great nervous irritability, vertigo, headaches, bad sleep, hypochondriasis, etc.

3. The "lithæmic state" is one that is allied to gout and rheumatism, rather than identical with either.

4. The lithæmic state in question, associated with nervous symptoms, is generally brought on by some overstrain or draining of the nervous system, or by some chronic poisoning of it, as by malaria or lead. It is probably a trophic or metabolic neurosis comparable to diabetes.

5. Oxaluria is generally only a form or indication of lithæmia. When oxalate of lime occurs in abundance with deposits of earthy salts, it has no clinical significance.

6. Phosphaturia, or an excessive deposit of earthy and alkaline phosphates in the urine may be only apparent, and due to deficient acidity of the urine from excess of vegetables or fruits in the diet. But an excessive discharge of phosphates may accompany conditions of functional nervous depression and irritation. It indicates in these cases a disturbance of digestion, due perhaps to some perversion of the innervation of the digestive organs. If kept up, the loss of phosphates and undue alkalinity of the blood may react upon the nervous system, but in the vast majority of cases phosphaturia is only an evidence of indigestion.

7. It is of great importance for purposes of diagnosis and treatment of chronic functional nervous disorders that a careful study of the acidity and alkalinity of the urine be made, and that the proportions of urates and phosphates discharged be estimated.

50 West Forty-sixth Street.

Illegitimacy in Lima.—The Peruvians seem to have a positive aversion to matrimony, if statistics prove anything. In the register of births for the month of August last, published in *El Monitor Médico*, of 392 children, 208 were illegitimate, 177 legitimate, and 7 doubtful. Of the negroes, 90 per cent. were illegitimate; of the pure-blooded Indians, 68 per cent.; of the mixed race, 60 per cent., and of the whites, less than 29 per cent. It is to be noted, however, that many couples live together as man and wife, and are faithful to each other, although they have not gone through the ceremony of a formal marriage, and their children are consequently recorded as illegitimate.

Miss Alcott remarked during a trip on an ocean steamer: "They name ships Asia, Persia, and Scotia. I wonder it doesn't occur to somebody to name one Nausea."

ANNUAL REPORT OF THE THROAT DEPARTMENT OF THE GERMAN DISPENSARY,

With Remarks on the Treatment of Laryngeal Phthisis, and on Reflex Neuroses due to Nasal Disease.[1]

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Before entering into the subject proper of my paper, allow me to say a few words about the work done in the Throat and Ear Department, which, as you all know, was the last one to be created as an independent class. When I was assigned to duty in the fall of 1882, the department was still combined with the eye class. A record from the books shows the total number of patients during 1883 to be 3,274, of whom there were 1,407 throat and ear patients. The formal separation from the eye class took place on May 23, 1884, when we moved into our comfortable new building. The number of throat and ear patients during 1884 was 2,219, an increase of fifty-seven per cent. compared with the year previous; during 1885, 3,156, showing an increase of forty-two per cent. over 1884. When you compare the increase of patients in our department with that of the other classes during the last three years, the rapid growth of the former will be still more apparent. Although I may be permitted to say that all the surgeons worked with equal zeal and devotion, the great influx of patients is certainly in a large measure also due to the fact that a separate and distinct department had been created for this class of diseases. The attention of the public once being attracted, a greater number sought help for their ailments.

The report which I now lay before you does not contain the total number of patients, the ear cases being excluded. My intention to treat of the latter at another time, and the fact that the laryngological and rhinological material will more than suffice to occupy our evening, may serve as my excuse.

I am well aware of the shortcomings of statistics like the present; they necessarily suffer from imperfections time only can eliminate. The figures are too small, the time of observation is too short, to allow conclusive deductions in regard to the frequency of a disease, the etiological factors, the influence of sex, seasons, etc. Nevertheless, aside from a review of the work done in the department, the reader will find many interesting data, and if others will publish similar reports in the future, their value will naturally be enhanced. Up to the present time only few statistics of this kind have appeared. Among them I may mention the reports of the Throat Department of the St. Thomas' Hospital, in London, for 1882 and 1883, by Dr. F. Semon, and Dr. Schmiegelow's first report of the Commune Hospital in Copenhagen, published March, 1884. No such compilation, as far as I know, has been made in this country.

The classification of patients under the different headings was rendered the more difficult, as three surgeons succeeded each other during the course of the year on the three alternate working days. A perfect uniformity in the nomenclature could not, therefore, be expected. Further, in many instances a patient suffered from more than one affection at the same time. In order not to complicate the report too much, each patient is enumerated but once and classified according to his most prominent ailment.

Of the total number of patients 2,042 are contained in the different tables; the majority of the other 1,114 were suffering from ear complaints. To many treatment was refused on account of their being found able to pay, and several were assigned to other departments, to which they properly belonged. The 2,042 patients were divided into four groups, and we count, under diseases of the pharynx, 1,100; of the larynx and trachea, 392; of the nose and rhino-pharynx, 493 patients. The fourth group, which strictly does not belong to our specialty, comprises 57 patients, suffering from diseases it was considered opportune to treat in the department.

[1] Read before a meeting of the Physicians of the German Dispensary, January 1, 1886.

Pharynx.

Diseases.	Male.	Female.	Total.
1. Pharyngitis, acute catarrhal	92	41	133
2. " chronic catarrhal	54	58	112
3. " granular	76	58	134
4. " dry	33	46	79
5. Tonsillitis, acute	103	76	179
6. " chronic hypertrophic	52	53	105
7. " follicular	98	74	172
8. Peritonsillitis	22	13	35
9. Uvulitis, acute	6	1	7
10. Elongated uvula	7	...	7
11. Bifid uvula	2	...	2
12. Herpes	3	1	4
13. Retropharyngeal abscess	1	...	1
14. Diphtheria	29	18	47
15. Phthisis	3	5	8
16. Syphilis	33	28	61
17. Hyperæsthesia	3	5	8
18. Foreign bodies	1	1	2
19. Papillomata	2	...	2
20. Cysts	...	2	2
Total	621	479	1,100

Larynx and Trachea.

Diseases.	Male.	Female.	Total.
1. Laryngitis, acute catarrhal	70	44	114
2. " " " (severe form)	14	15	29
3. " chronic catarrhal	48	22	70
4. " chronic subglottic	..	4	4
5. " hemorrhagic	1	2	3
6. Pharyngo-laryngitis, catarrhal	46	14	60
7. Tracheitis, catarrhal	2	5	7
8. Acute œdema	1	..	1
9. Phthisis	33	5	38
10. Syphilis	9	2	11
11. Hyperæsthesia	2	6	8
12. Paralysis of recurrent	1	..	1
13. " internal tensors	10	4	14
14. " adductors	8	8	16
15. " abductors	3	1	4
16. Glottic spasm	..	2	2
17. Foreign bodies	1	1	2
18. Papillomata	4	1	5
19. Cysts	1	1	2
20. Distortion of larynx	1	..	1
Total	255	137	392

Nose and Naso-pharynx.

Diseases.	Male.	Female.	Total.
1. Rhinitis, acute catarrhal	15	10	25
2. " chronic catarrhal	18	30	48
3. " " " hypertrophic	47	34	81
4. " atrophic	33	52	85
5. Rhino-pharyngitis, chronic	64	39	103
6. Perichondritis of septum, traumatic	..	1	1
7. Epistaxis	12	12	24
8. Eczema	7	10	17
9. Furuncle	4	5	9
10. Acne rosacea	1	..	1
11. Syphilis	6	..	6
12. Foreign bodies	2	2	4
13. Rhinolith	1	..	1
14. Mucous polypi	18	5	23
15. Enchondromata	3	2	5
16. Adenoid vegetations	12	6	18
17. Fracture of nasal bones	2	..	2
18. Perforation of septum, non-specific	3	1	4
19. Deviation of septum	25	11	36
Total	273	220	493

UNCLASSIFIED.

Diseases.	Male.	Female.	Total.
1. Gingivitis	2	2	4
2. Epulis	3	..	3
3. Ranula	..	1	1
4. Stomatitis, catarrhal	3	5	8
5. " specific	3	1	4
6. Glossitis	2	2	4
7. Leukoplakia	1	..	1
8. Lymphadenitis	9	10	19
9. Cervical abscess	2	..	2
10. Goitre	3	8	11
Total	28	29	57

SUMMARY.

Diseases.	Male.	Female.	Total.
1. Pharynx	621	479	1,100
2. Larynx and trachea	255	137	392
3. Nose and naso-pharynx	273	220	493
4. Unclassified	28	29	57
Grand total	1,177	865	2,042

From the sixty-nine different diseases in the tables before you I have selected two topics which I thought of sufficient interest to engage your attention this evening, viz., the treatment of laryngeal phthisis and the reflex neuroses due to nasal disease. In order not to transgress the allotted time, I shall be brief and only mention the salient points.

It always has been the endeavor of physicians to treat laryngeal phthisis successfully. While some writers, as, for instance, Tevishaber,[1] Heinze,[2] believe in temporary relief only, the majority of observers consider a permanent cure possible. Some of the latter, for instance, Mackenzie,[3] Cohen,[4] regard cure as an exception; others, as Bosworth,[5] Schmidt,[6] report very favorable results. The former has cured sixty cases, the latter nineteen of three hundred and fifteen patients seen within three years, and nine of eighty-seven seen later. But while Bosworth holds the opinion that laryngeal phthisis is not necessarily of tubercular origin primarily, and that tubercle as a rule plays no part in its primary causation or development,[7] Schmidt agrees with Heinze as to its tubercular nature from the beginning, and calls only such patients cured who remained free from laryngeal and pulmonary symptoms for a long period.

In order to combat the local complication successfully, treatment of the pulmonary affection is absolutely necessary. It will here suffice to merely mention the measures to be adopted: as climatic treatment, due attention to the skin, suitable nourishment, avoidance of dust, and rest of the vocal organs.

It was thought that with the invention of the laryngoscope a more successful treatment could be inaugurated, but the expectations were not realized. Astringents and caustics were first employed, but were soon abandoned as too irritating, and as failing to change the malignant nature of the ulcerations. When, in 1860, atomization was introduced, the remedies were applied in spray form. Resolvents, astringents, and recently antiseptics have been recommended, as boracic acid, carbolic acid, also creasote, thymol, oil of turpentine, with or without addition of narcotics.

Schmidt ascribes his good results, mentioned above, to the inhaling of disinfectant and antiseptic vapors. Eight to fifteen drops of a mixture of ten parts of balsam of Peru and five parts of rectified alcohol are put into half a litre of boiling water, and the patient is directed to inhale the vapor for five minutes three to four times daily. Antiseptics can also be inhaled for a longer time through respirators, Herschmann's mask. In order to avoid the irritation of mouth-breathing, Whistler devised a pattern which allows inhalation through the nose only, and later added an instrument for the same purpose for patients on whom tracheotomy had been performed.[1] He chiefly uses conium, turpentine, camphor, eucalyptus oil.

The same class of remedies is also applied locally with the cotton-carrier or powder-blower. The best results have been obtained with boracic acid and iodoform. As boracic acid has been superseded by the iodoform, I shall confine my remarks to the latter. Lincoln employed iodoform as early as 1873,[2] and in 1878 it was in use in the London Throat Hospital. In Germany Schmidt induced Beetz[3] to make the first insufflations in laryngeal phthisis with good results. Iodoform is at present the most favorite remedy with the majority of laryngologists, although it has some drawbacks. Some patients lose their appetite, and Fraenkel[4] not long ago stated, in a meeting of the Berliner Medical Society, that iodoform does not kill the bacilli.

Quite recently Krause recommended lactic acid[5] and praised very highly its beneficial effect. His attention was drawn to this remedy by Mosetig-Moorhof,[6] who destroyed superficial epitheliomata, and papillomatous and fungous growths by the concentrated acid. The advantage lactic acid possesses over other caustic remedies rests in its property of destroying diseased tissue, leaving the healthy parts intact. In order to obtain the full effect of the acid, it is necessary to employ it in concentrated state, and to leave it in contact with the tissue for some time. Krause adopted this procedure as far as possible to the laryngeal application by rubbing the solution into the affected parts, and by rapidly increasing the strength from ten to fifty, even eighty per cent. He reports fourteen cases, some very severe, with extensive ulcerations over the greater part of the larynx, and then summarizes as follows: After the application of strong solutions a tough scab is seen adhering firmly to the ulcers. The swelling and infiltration decreases, and after the sore clears up, healthy granulations appear. The ulcers become smaller, cicatrization commences, dysphagia disappears, and the voice and general condition improves. In a later communication[7] Krause relates favorable reports received by Gottstein and Hering, and quite recently Jelinek[8] corroborated these statements. The discussions following these last two papers developed considerable opposition, and opinions are widely divided at the present time.

The desire to judge for myself as to the utility of this treatment, induced me last fall to adopt it in my department.

Only such patients were selected as had positive signs of pulmonary complications and well developed laryngeal symptoms, such as tubercular infiltration or ulceration. The histories are, in brief, as follows:

CASE I.—Female, aged thirty-eight. Cavity in right apex; slight hoarseness and small infiltration on posterior wall of larynx. Treatment began October 28th. December 29th the laryngeal swelling had grown smaller, but had not disappeared entirely, voice better.

CASE II.—Male, aged thirty-one, upholsterer. Dulness and moist râles at left apex anteriorly; considerable tumefaction of the arytenoid cartilages; conical excrescence on posterior wall of larynx; hoarseness, no dysphagia. Persistent treatment for two months with strong solutions resulted in but slight decrease of the posterior infiltration.

[1] Transactions International Medical Congress, London, 1881, vol. iii., p. 208.
[2] Die Kehlkopfsschwindsucht, p. 93. Leipzig, 1879.
[3] Manual of Diseases of Throat and Nose, p. 383. London, 1880.
[4] Transactions American Laryngological Association, 1883, p. 46.
[5] Ibidem, 1881, p. 77.
[6] Transactions International Laryngological Congress, Milan, 1880, p. 100.
[7] Manual of Diseases of the Throat, pp. 285 and 296. New York, 1881.

[1] Medical Times and Gazette, December 16, 1882, and June 20, 1885.
[2] New York MEDICAL RECORD, 1873, p. 450.
[3] Berliner klinische Wochenschrift, No. 2, 1882.
[4] Ibidem, No. 4, 1883.
[5] Ibidem, No. 29, 1885.
[6] Centralblatt für Chirurgie, No. 12, 1885.
[7] Berliner klinische Wochenschrift, No. 45, 1885.
[8] Wiener Medizinische Presse, No. 47, 1885.

CASE III.—Male, cabinetmaker, aged thirty-eight. Cavity in right apex; hectic symptoms; large œdematous swelling of left ventricular band, its posterior third destroyed by deep, angry ulceration; dysphagia. Patient had been treated with iodoform and cocaine without visible effect. Lactic-acid treatment begun October 28th. After two weeks the ulcer was perfectly clean and cicatrization had commenced; marked improvement. End of November, slight infiltration of left aryteno-epiglottic fold and left vocal cord, which were in *statu quo* December 29th, the patient being irregular in his calls. The first ulcer remained healed.

CASE IV.—Male, aged forty-six, works in a brewery. Right lung diseased; infiltration of intra-arytenoid region. Ulceration began while under iodoform treatment; odynphagia. Lactic acid lessens the pain and cleans the ulcer, but during its use the process extends to the epiglottis, and patient goes to a hospital, where he dies.

CASE V.—Male, machinist, aged forty-nine. Right lung affected; superficial erosions of the free border of both vocal cords; slight infiltration of ventricular bands anteriorly; hoarseness. No visible effect of treatment.

CASE VI.—Male, cigarmaker, aged forty-one. Right lung diseased; larynx shows swelling of the left arytenoid cartilage and slightly ulcerated cords. Patient at first bears only weak solutions, but in spite of strong applications during one month the right arytenoid and both ventricular bands had become infiltrated. Dysphagia had decreased.

CASE VII.—Male, aged thirty-two, clerk. Dulness, moist râles at right apex; left edge of the epiglottis slightly tumefied, ulceration extending through the mucous membrane to the cartilage; severe odynphagia. Treatment begun November 14th, with solutions of ten per cent., rapidly increased to twenty-five and fifty per cent. Two weeks later the ulcer had cleared and pain in swallowing disappeared. Middle of December ulceration began on the right side of the epiglottis, and one application of seventy-five per cent. was made. Patient complained of great pain during the week following, but felt relief after three subsequent insufflations of iodoform.

CASE VIII.—Male, aged thirty-two, porter. Affection of both lungs. The whole larynx one large ulcerated surface; extreme odynphagia. Patient was irregular in his calls, and no perceptible effect of the treatment could be observed.

A ninth case, although not properly belonging here, deserves mention. The patient, male, aged forty-six, had no physical signs of lung disease, and careful microscopic examination of his sputa as well as laryngeal secretion showed no bacilli. But the ulceration of the epiglottis and a deep ulcer on the posterior part of the left ventricular band, extending to the cord, made the diagnosis of phthisical laryngitis most probable. After one month's treatment the ulcer was clean, and dysphagia relieved. Patient died soon afterward from intercurrent pneumonia; no post-mortem allowed.

These observations will justify the following conclusions:

1. Lactic acid is a valuable remedy in most cases of phthisical ulceration of the larynx. The ulcers heal rapidly and the distressing pain in swallowing is thereby relieved.

2. Its use does not prevent the formation of new infiltrations, or ulcerations.

3. When not combined with other proceedings, it has little or no effect on infiltrations, which are covered by intact mucous membrane and epithelium.

The last subject of my paper, the reflex neuroses due to nasal disease, has of late engaged the attention of medical writers to such a degree that I have thought it of sufficient interest to give you a short review.

Distinction has first to be made between normal and pathological reflex phenomena. To the former belong sneezing, caused by inhalation of dust, introduction of irritating powders into the nose; epiphora, produced by similar causes; further, the reflex relation between nasal mucous membrane and respiration and circulation, described by Kratschmer.[1] When a quietly breathing rabbit is made to inhale the vapor of a volatile liquid, *i.e.*, ether, ammonia, etc., the thorax assumes the expiratory position and the heart ceases to beat. Finally, cough can be elicited by irritation of a normal nose, for instance, contact with a probe—a question recently exhaustively studied by Mackenzie.[2]

The first observation of pathological reflexes was made by Voltolini,[3] who cured a patient of asthma by extirpation of nasal polypi. He soon was followed by others, for instance, Haenisch,[4] Porter,[5] who effected a cure of asthma by removal of a pharyngeal polypus; but it was left to Hack to draw general attention to the subject.[6] Although he seemed at first too enthusiastic, and was obliged to modify his views later on, he certainly deserves the credit of having pointed out a group of diseases due to nasal affections, and of having thereby made them amenable to treatment. The present state of the question is, in a few words, as follows:

It has been well known for some time that there exists a cavernous erectile tissue on the lower and middle turbinated bones of the nose, an excellent description of which has recently been given by Zuckerkandl.[7] This tissue can be irritated and made turgescent by reflexes arising from other parts of the body, and by morbid local changes, and then produce neurotic symptoms. The neuroses are generally transmitted by the first and second branch of the trigeminus, but the olfactory also plays its part; it is, for instance, known that an asthmatic attack has supervened on entering a room containing violets.

Of the reflexes which are produced by transmission from outside sources, I may mention sneezing after looking into a glaring light, for instance, sunlight, and filling of the nasal vessels with the sensation of stuffiness after exposure of the skin to cold. The psychical sphere and genital tract also sometimes exert their influence on the erectile tissue, which fills with some women during menstruation.[8]

The observation that many patients with nasal hypertrophies have no reflex symptoms, is explained by Rossbach on the assumption that the nervous system of such sufferers is similar to that of neurasthenic and hysterical people. The lower turbinated are most frequently diseased; next, the lower and middle combined; last, the middle ones alone. The disease is more frequent in the better situated than poorer class, and, contrary to adenoid vegetations, more in adults than children.

We can distinguish several forms of reflex neuroses, the most frequent of which are: (1) spastic neuroses, as bronchial asthma, spasmodic sneezing and coughing, also glottic spasm; (2) neuroses of the sensory sphere, as abnormal and painful sensations in the pharynx and larynx, hemicrania, supra-orbital neuralgia, alopecias in remote parts of the body; (3) of vaso-motor reflexes we have erythema of the nose, œdema of the face, erysipelatous swelling of the eyelids and cheeks. To this group can also be referred attacks of vertigo, and, according to the opinion of most American writers, the hay fever; (4) serous neuroses manifest themselves in profuse, sudden, serous secretion from the nose, in epiphora, which in this case is not brought on by mechanical obstruction of the lachrymal duct; finally, salivation. Further, there have been observed scotomata, palpitation of the heart, epileptoid attacks, etc. Sommerbrodt[9] published the case of a boy who had œdema of the face, spasmodic sneezing, profuse nasal secretion—all men-

[1] Reflexe der Nasenschleimhaut auf Athmung und Kreislauf. Wien, 1870.
[2] American Journal of the Medical Sciences, July, 1883.
[3] Anwendung der Galvanocaustik, p. 246 et seq. Wien, 1872.
[4] Berliner klinische Wochenschrift, No. 40, 1874.
[5] New York MEDICAL RECORD, October 11, 1879.
[6] Berliner klinische Wochenschrift, No. 25, 1882, und No. 21 und 22, 1885: Wiener medicinische Wochenschrift, 1882 und 1883; Erfahrungen auf dem Gebiete der Nasenkrankheiten. Wiesbaden, 1884.
[7] Circulationsapparat der Nasenschleimhaut. Wien, 1884.
[8] American Journal of the Medical Sciences, April, 1884.
[9] Berliner klinische Wochenschrift, No. 10 und 11, 1884.

tioned above. Further, he suffered from reflexes to the bronchial vessels with all the physical signs of chronic bronchitis; from reflex vomiting and reflex involvement of the nerve-fibres of the skin, causing chilliness, rigor, paleness. After a few days of treatment of both lower turbinated bodies with the galvano-cautery he showed improvement, and was entirely cured within one month.

The prognosis is better for the local symptoms arising from the nasal affection, as coryza, epistaxis, inflammatory conjunctivitis, than for the reflex phenomena. Therefore it is best to be reserved in the opinion expressed to the patient.

When there is doubt if the neurotic symptoms are due to nasal disease, the use of cocaine can help the diagnosis, as cases are described in which the reflex neuroses were temporarily suspended after application of cocaine to the nasal hypertrophies. Cocaine, besides its analgesic and anæsthetic properties, also has the effect of depleting the cavernous erectile bodies. Even weak solutions cause collapse of the turgescent tissue, and the mucous membrane[1] can be seen to adhere close to the bone. Bosworth was the first to draw attention to this fact, which already has been found useful in the treatment of various nasal affections.

Before resorting to the actual cautery, milder means can be employed to remove the hypertrophies, as, for instance, glycerole of iodine, iodide of zinc, of caustics, nitric acid, chromic acid, glacial acetic acid, etc.; but our chief dependence will always remain the galvano-cautery, on account of its quick and positive action. By applying cocaine before and after the operation, not only will pain be avoided, but the patient will also escape the distress caused by the swelling and stuffiness following the application of the cautery without this precaution.

KERATOSIS SEBACEA—A CASE ASSOCIATED WITH HYPERTRICHOSIS.

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THE literature of this dermatosis is very misleading and confusing, owing partly to the variety of names under which it has been described, and partly to the very different diseases which have been confounded with it. The term Ichthyosis sebacea seems, however, to be the one in most general use, notwithstanding that it is also given to processes which have no connection with the sebaceous glands, as, for instance, keratosis diffusa intra-uterina.

Seborrhœa squamosum neonatorum, Xeroderma saurioides, Cutis testacea, Ichthyosis congenita, Seborrhœa universalis, Acné sebacée, etc., are still further designations which are made synonymous with each other and with ichthyosis sebacea. Yet the processes which are included under these are in many cases very different, not only from each other, but also from keratosis sebacea, and one is at an utter loss either to reconcile them together, or to regard them as dependent even in a remote degree upon the same cause. Affections due to an anomalous development of the epidermis, dating from early intra-uterine life, as in ichthyosis congenita, those having their origin in an excessive and abnormal secretion of vernix caseosa, as in seborrhœa squamosum neonatorum, and those arising from an inordinate action of the fully developed sebaceous glands, accompanied by an exfoliation of their epithelium, as in keratosis sebacea, are thus found jumbled together, regarded as being more or less the same, and dubbed with a name, ichthyosis sebacea, common to and interchangeable between them all. The confusion which results from this is necessarily antagonistic to any clear comprehension of the subject, and brings the reader into a condition of utter perplexity.

I shall scarcely, however, in this article, attempt to elucidate the differences existing between the various affections bearing the name ichthyosis sebacea, my intention being only to describe a case which is interesting from its rarity, and from an unusual feature accompanying it. That I use the term keratosis sebacea, instead of ichthyosis sebacea, is owing to the confusion surrounding this latter, and because it expresses most clearly the nature of the changes which occur in the course of the affection.

Lebert ("Ueber Keratose," Breslau, 1864) defines keratosis sebacea as a species of seborrhœa which differs from ordinary seborrhœa in that it is accompanied by more extensive exfoliation of the epithelium of the sebaceous glands, the affection being primarily dependent upon an enormously increased secretion of sebum, and upon epithelial hyperplasia. Keratofication is secondary, and results from inspissation and desiccation of the secreted mass.

There are rather few descriptions of keratosis sebacea given either in text-books or in journals. Of these the most accurate is that of Erasmus Wilson, which is quoted in extenso by Lebert. Biefel, likewise, under the name of ichthyosis spuria, and Schwimmer, under that of seborrhœa universalis, each describe a case agreeing perfectly with Wilson's, and distinguishable for accuracy and clearness. Reference to the affection, and mention of the process is also given by many others, but these observers are the only ones whom I have found treating it with definiteness and thoroughness.

The cases described by them leave no question in regard to the sebaceous origin and nature of the affection. Biefel and Schwimmer held that it was situated entirely in the glands which secrete sebum, and Wilson, though considering it a form of ichthyosis, yet believed it to be one in which the sebaceous glands played a principal part. As Lebert says, there is an exfoliation of the epithelium of the glands which occurs before the cells have undergone complete fatty degeneration, and these, arriving upon the surface mixed up with the sebum, undoubtedly aid in producing the incrustation. But yet there is no connection between this exfoliation and the epidermic changes seen in ichthyosis, which depend upon an anomalous development of the epidermis. In the one, the horny appearance acquired by these exfoliated cells is entirely secondary, and due to a process of desiccation, but in the other the cells are true epidermis cells, which have been produced in the natural manner, only deviating in their arrangement from the norm. In addition, in keratosis sebacea there is no hereditary tendency, while in ichthyosis it is absolutely established. Besides, as will be seen presently, the objective symptoms presented by this affection separate it very distinctly from those which belong properly to the ichthyoses. In its development, keratosis sebacea seems to follow no definite rule. At times appearing shortly after birth, at others not until adult life has been reached, it seems to be limited to no particular age, but to occur at any time in post-uterine life. Biefel's patient was twenty-two years of age when first seen by him. The affection had been more or less present since childhood, but rapid and extensive increase had commenced only at the age of nineteen. Wilson mentions two sisters, seen by Dr. Ogle, in whom the process developed at the age of fourteen, following vaccination. It may be universal, or limited to only small areas, or again consist of only a few patches.

The first changes observed in the development of keratosis sebacea consist in a largely increased secretion of sebaceous matter. It is, as it were, poured out upon the skin, accumulating rapidly and becoming gradually inspissated, until it forms a hard and dry incrustation. The color, at first only grayish, becomes gradually brown, and then darker and darker, until it varies from a deep brown to even a black or greenish black. This change in color is due both to deposition of dust upon the surface, and also to pigment mixed with the secreted sebum. The incrustation is not uniform, but is cracked

[1] New York MEDICAL RECORD, November 25, 1884.

and broken into pieces of variable shape and size, which, though externally hard, horny, and of dark color, yet are softer as the surface of the skin is approached, and contiguous to it are quite soft and fatty, and light gray. On removing some of the mass, the skin is found normal in appearance, or perhaps slightly reddened, but the ducts of the sebaceous glands are dilated and patent. The general health of the patient is usually unaffected, and only the objectionable appearance of the evil is complained of.

This brief *résumé* of the principal features of keratosis sebacea is, I think, sufficient to identify it with the following case. This latter presented, in addition to these symptoms, however, one, as already mentioned, which materially increased the interest excited by the unusual affection.

W——, a boy, aged seven months, born in New York, of German parentage, was brought last June to Dr. Bulkley's clinic at the New York Skin and Cancer Hospital. The baby was well nourished, fat, and playful. He nursed well, his bowels were in normal condition, and he was evidently in perfect health. His parents, also, were strong and healthy, and their other children were entirely free from any affection of the skin. Besides, they knew of no one connected with their family who had suffered or were suffering from any similar or correlative process. The baby's skin had been, at birth, perfectly normal, and had remained so up to the age of six weeks. At that time diffuse, irregular, but distinctly limited erythematous patches began to appear upon both ankles and the dorsal surfaces of both feet. They were *not* elevated, and were entirely free of squamæ. In a few days, however, these patches were found covered with thin, whitish, easily detachable and soft scales, which, notwithstanding repeated washing, accumulated rapidly, became thicker and harder, and underwent changes in color until they were of a dark brown or black. Almost immediately after the appearance of the patches on the feet and ankles, the erythematous condition began to extend upward upon the legs, until it occupied the entire lower extremities. The formation of scales upon them ensued in the same way as upon the first patches. The process likewise developed itself in a few places upon the body. The child's health remained perfect all this time.

Status præsens.—On removing his clothes, the little patient presented the following condition: The dorsal surfaces of the feet, and the entire lower extremities as far upward as Poupart's ligament anteriorly, and the gluteal fold posteriorly, with the exception of an irregular, diamond-shaped space occupying the popliteal region, were entirely covered by an incrustation of a dark-brown and greenish-black color. This shaded off toward the plantar surfaces of the feet, which were entirely free, in thin, light-brown scales. The upper surfaces of the first and second phalanges of the toes were also more or less covered by thick, dark, hard squamæ. The incrustation was not uniform, but divided up into small pieces of various shapes and sizes, none being larger than a small grain of corn. They were elevated above the skin from one-sixteenth to one-tenth of an inch, and their external surfaces were slightly convex, and polished from friction. Each small piece seemed to fit into the other, and offered no hinderance to the natural movements of the child. The encasing sheath on the extremities resembled very much a mosaic in dark brown. The scales were rather adherent, but on removing some of them, nothing but a slightly reddened appearance of the skin was observed.

The penis, scrotum, and perineum were entirely free, as also a narrow line along the inner margin of the inguino-scrotal space. The buttocks were the seat of only a diffuse redness, which extended upward as far as the second lumbar vertebra. The irregular border which bounded this diffuse patch was, however, covered with brown scales, and their absence from the buttocks was probably due to the manner in which the child was carried. Irregularly shaped spots, varying in size from a twenty-five-cent piece to the palm of the hand, were also seen here and there on the abdomen and back, some only erythematous, others covered with light-brown squamæ. The backs of the hands, the wrists, and the arms, as far up as the elbows, showed diffuse redness, with here and there accumulation of brownish and black scales. The incrustation is not so uniform upon the upper extremities as it is upon the lower; the scales are not so thick, nor are they so closely aggregated together, and they are found more upon the extensor surfaces than upon the flexors. The palms of the hands are entirely free. On the neck, again, we find three or four distinctly limited oval spots, varying in size from a twenty-five-cent piece to a silver dollar, and upon the cheek one measuring two inches by one and a half inch. These last show only a condition of erythema, are devoid of squamæ, and are soft, velvety, and slightly oily to the touch. Over the anterior portion of the right parietal bone a patch is situated, which presents the same appearance as seen on the legs. The skin between all of these discrete patches is white and soft, and seems to be in every way perfectly normal.

On removing some of the incrustation, which, externally, was hard and dense, it was seen that it became gradually softer as the skin was neared, the color at the same time becoming grayish. They crumbled rather easily under pressure, with the exception of the outermost layer, which resisted even considerable force. Examined under the microscope, they proved to be composed of: Sebaceous matter in great quantity; oil-globules; horny cells (some diffusely pigmented, others containing only pigment granules); free pigment; cholesterin crystals in large numbers; foreign matter.

Diachylon ointment was prescribed for the little patient, and the mother was instructed to apply it freely over all the affected portions of the skin. She brought the baby back in a few days, and stated that, in a few hours after the application of the ointment, the incrustation was removed with perfect ease. On examining the baby, only a reddened condition of the skin was found, it being soft and velvety. Over the entire surface the dilated openings of the sebaceous glands were plainly visible, and a condition was observed which had not been noticed at the first examination. There was a hypertrichosis situated over almost the entire body, but most marked upon the lower extremities. These were thickly covered by a growth of hair, light in color, of about the same individual size as the hair upon the patient's scalp, and of an average length of nearly one-third of an inch, some being as long as one-half inch, others shorter. On the upper extremities the condition was not developed to so marked a degree, and on the body there was only a more decided hairy development than would normally be the case. The hair on the body was of an average length of about one-fifth of an inch. On the face the hair was likewise somewhat increased, but on the scalp it was about normal. It was light in color, soft and silky. The mother could give no definite information as to whether this condition had existed since birth, or whether it had developed subsequently to it, as she had never given any particular attention to it.

The removal of the scales ensued with great rapidity. The surface left without ointment was covered in a few hours with a coating of sebum, and at the end of twenty-four hours small brown scales could be detached. A regular line of treatment was instituted, but beyond keeping the scales away it has produced little benefit. A renewal of the incrustation ensued as soon as treatment was in any way omitted.

The affection presented by this little patient is one of considerable interest, both on account of its rarity and from its being associated with a hypertrichosis. It is rather difficult to say definitely to what extent this hypertrichosis was natural, or whether it was partly associated with a hypertrichosis irritativa. The mother had not

paid sufficient attention to it to state how long it had been present, and necessarily the hairs could give no clue. Their greatly increased length, however, on those portions of the body where the incrustation was most marked would seem to indicate that this was due to irritation, but then a condition of hirsuteness, though less marked, was also present on those parts not yet invaded by the process. The growth of hair, on the other hand, could scarcely be that ofttimes seen at birth and persisting for a few weeks at the utmost afterward, since they would not have remained unshed up to the age of seven months, and neither could they have been retained there by the incrustation. This latter was not continuous from the beginning of the affection, but it was at times cast off of its own accord; and, moreover, they should have come away with the incrustation when it was removed by the application of the ointment, if this had been the case. But it was not. The hairs, when noticed at the time of the second visit, were all firmly attached to their papillæ, requiring the usual amount of force to remove them. The most probable explanation of the condition, to me, was that a degree of true hypertrichosis did exist from the beginning, and on those parts subjected a long time to the irritation caused by the presence of the incrustation a condition of hypertrichosis irritativa ensued, and we thus found the hairs longer on those parts than on those not yet implicated in the process. In view of this hypertrichosis, the question was brought up as to what possible connection there could be between the two processes, if any. Unfortunately, no microscopical examination of the tissue was possible, and little aid is obtainable from the literature of hypertrichosis, it being entirely taken up with the clinical features and the distribution of the hairs, no record of a microscopical examination of the sebaceous glands being recorded. It is, however, perfectly presumable, that if, on those parts of the body normally occupied by lanugo hairs with rudimentary glands attached and a comparatively small number of fully-developed sebaceous glands, a growth of hair is found approximating and corresponding to that of, for instance, the scalp, there will be an accompanying development of the sebaceous glands. Naturally, I refer here to the condition known as hypertrichosis adnata, and not to hypertrichosis produced only by irritation. The very large amount of sebum poured out upon the skin of this little patient would be partly accounted for should this development of the sebaceous glands be present, but in the absence of a microscopical examination any theory must remain only supposititious. The association of these two conditions is curious and interesting, but what interdependence, if any, existed between them, is of course under the circumstances not capable of being proved. A further peculiar symptom in the case is the appearance of the erythematous patches and plaques preceding the accumulation of the sebaceous matter. In seborrheic affections in general the skin affected by the process is either unchanged in appearance, or only secondarily does it become reddened and congested.

But, in this patient, the first symptoms presented consisted of circumscribed plaques of diffuse redness, upon which was subsequently developed the sebaceous incrustation. The appearance of these plaques is certainly curious, and suggests a vaso-motor disturbance; that by means of some cause a dilatation of the blood-vessels through the action of the vaso-dilator nerves occurred. These areas of congestion always preceded the increased sebaceous secretion, and the accumulation of sebum on the skin was entirely limited to them, the remaining portions of the cutaneous surface being entirely free. Moreover, from the beginning of the affection, as the area of congestion proceeded from its starting-point, the dorsum of the feet, and encroached upward upon the lower extremity, so also did the sebaceous incrustation keep pace with this encroachment, but at no time did any seborrheic disturbance precede the erythematous condition. That there was a causal connection between the congestion and the excessive secretion of sebum, is undoubtedly true. An excess of nutrition being supplied to the glands through the great increase in the amount of blood going to them, they would be stimulated to great activity, with the result of a largely increased secretion of sebaceous matter; furthermore, this abnormal activity would also show itself in the rapid production of new epithelial cells, and the equally rapid casting off of the old ones. Many of these latter would thus be desquamated without having undergone complete fatty degeneration, and would pass out through the ducts, together with the rest of the products of the glands. Having arrived upon the surface, they became there horny in character through desiccation, and aided greatly in forming the incrustation. This seems to me to be the part played by the congestion in causing, or, at least, in greatly aiding the hypersecretion of the sebum, but when the cause of the congestion is sought, there is nothing from which any conclusion can be drawn. Our knowledge as yet of neuropathy in connection with affections of the skin is very limited, and few proved and accepted facts in regard to it are recorded. This patient showed certainly no symptoms referable to any disturbance of innervation, and the areas of congestion, though on their first appearance, and during their subsequent development, they were for the most part symmetrical, yet were not entirely so. Subjectively, there was nothing to deduct from; yet, from the objective symptoms, it is presumable that some nervous disturbance existed, but what was its cause, or how it originated, it is scarcely possible to say.

Clinical Department

CIRRHOSIS OF THE LIVER IN CHILDREN.

Dr. Wesley M. Carpenter, of this city, writes that the case reported by Dr. Marsh, of Oswego Falls, N. Y., in The Medical Record for December 19, 1885, recalls the fact that those who have opportunity to make autopsies in large numbers, occasionally find cirrhosis of the liver in young subjects. He has in his collection at the Laboratory of Biology and Pathology, University Medical College, specimens from children four and seven years of age, in which the lesion exists to a remarkable degree, giving to the organ a nodular appearance, and exhibiting, with the microscope, broad bands of interstitial growth.

In this class of cases, it is important, in studying the etiology, to ascertain the facts concerning the existence of syphilis. Moreover, it is not impossible that, in some instances, alcohol, even at the early age of two and a half years, may be allowed to exert its influence on the tissues through the agency of nurses.

ABNORMAL MOTILITY OF TONGUE—ENLARGED UVULA.

Dr. John Winslow, of Ithaca, N. Y., writes: "The ability to explore the naso-pharyngeal space with the tip of the tongue is probably not so very rare. To the cases lately reported in The Record, I can add that of Isaac N. Van O——, who called upon me April 16, 1879, in great distress of mind, since he had discovered a hole in each side of his throat behind the palate. To my questions he replied that he felt the holes with his tongue, as he would show me; and he at once placed the tip of that organ in the orifice of either Eustachian tube. This was proved by introducing the Eustachian catheter, which he could feel and dislodge with the tongue. This patient could also move his ears to a quite unusual extent.

"My surprise at the disappearance of the tongue be-

hind the velum in this case was hardly greater than at the comical annoyance of a colored man who consulted me for a bad habit he had of swallowing his palate! I expressed doubt, when he indignantly said he would vomit it up before me, and, true enough, he threw forward upon his tongue a uvula nearly three inches long, with a bulbous extremity about three-fourths of an inch broad. The dimensions were increased at the time by œdema attendant upon an acute faucitis. Of course, he could not keep the mass in his mouth, and so packed it away in the lower pharynx; and equally of course he was speedily relieved."

ALARMING SYMPTOMS FOLLOWING VACCINATION.

DR. F. L. PUTT, of Middlebury, Ind., writes that he was much interested in the report of two cases by Dr. White, under the title "What Is It?" in THE MEDICAL RECORD of December 12, 1885, but regrets that an inquiry concerning the virus used was not made. He says that in 1881 he noticed in several of his cases of vaccination a decided tendency to stupor, and, at the same time, a slight suppression of urine, and, quite frequently, retention. The patients complained of a difficulty in commencing micturition, and the urine on cooling deposited a copious sediment. The older patients stated that they noticed this as soon as the vesicles began to form on the arm, and that it continued until the crust became detached. There was also tenderness on pressure over the kidneys. Quinine, chlorate, and nitrate of potassium, bicarbonate of sodium, camphor, and sometimes gelsemium and cannabis indica, were given in varying proportions. The patients all recovered under this treatment. All of these cases occurred in the same neighborhood, and were the result of one day's vaccination. On inquiring concerning the virus of the physician from whom it was obtained, it was learned that it was procured from a foundling asylum. This same physician had more bad results than all the others in the town. Dr. Putt considered the trouble to be an irritation of the kidneys from blood-poisoning.

DISLOCATION OF THE UNGUAL PHALANX OF THE THUMB.

DR. R. B. JESSUP, JR., of Vincennes, Ind., reports the following rare case: "Mr. Hoké, a Frenchman, sixty-five years of age, residing three miles south of town, fell into his cellar on November 9, 1885, sustaining various bruises on the body and head. He was well enough on the third day to come to town to have his thumb examined. In his fall he injured it, and as seen by me, there was considerable swelling, and the second (ungual) phalanx was immovably fixed in a position almost at a right angle to the line of the first phalanx. Careful examination revealed the articular surface of the second phalanx looking backward, and the phalanx displaced in the same direction. The reduction was simple. Flexion was forcibly made, and at the same time pressure in a forward direction was exerted on the articular surface of the phalanx. This was seen by another surgeon, and was undoubtedly a case of simple dislocation of the second (ungual) phalanx backward on the first phalanx."

A REMARKABLE CONGENITAL DEFORMITY.

DR. BLAIR D. TAYLOR, Captain and Assistant Surgeon U.S.A., of Little Rock Barracks, Ark., writes that he was called to see a girl seven years old who presented the following conditions: "There was complete atrophy of the left scapular muscles, with the single exception of the deltoid, which retained sufficient power to raise the arm about two inches. The entire upper extremity on the same side was nothing more than a cylinder about one inch in diameter, consisting solely of integument and bone. The elbow was bent at a right angle, and anchylosed, and the extremity of the forearm was clubbed, and presented some faint traces of a division into a thumb and fingers, the latter being consolidated. Both pectoral muscles on this side, the latissimus dorsi, serratus magnus, trapezius, rhomboids, and all the other muscles of the arm, forearm, and hand, were completely shrunken and useless. On the front of the shoulder, just over the coracoid process, was a deep scar, about the size of a nickel five-cent piece, and just above the spine of the scapula were three deep scars, about half as large as the other. Both parents had dark eyes and complexions, but the child had a gray eye on the left side, and a dark-brown one on the right. The left side of the head, face, and neck was pale, and never became flushed or moistened with perspiration during exercise. On the right side, the complexion was ruddy, and perspiration was free, and increased by exertion. The child complained of frequent neuralgic pains in the milk-teeth of the left side of the mouth, although they were as perfect in appearance as those on the other side. The sight of each eye was equally good, and there was no atrophy or paralysis of the facial muscles, or of the sterno-cleido-mastoids. In every other respect the girl was perfectly developed, and she was unusually active and intelligent for her age. Examination of the left lung showed no abnormality, except a lack of expansion on that side from atrophy of the serratus magnus. The heart and other internal organs were healthy as far as could be determined. The occasion of the visit at this time was for advice concerning an indolent ulcer over the left elbow, which had existed almost constantly from birth, healing up at intervals, and reappearing upon the receipt of any slight injury. The existence of this ulcer was easily explained by the feebleness of the circulation in the left arm." Dr. Taylor is inclined to attribute this arrest of development to the influence of maternal impressions. He learned that the mother, when two months pregnant with this, the first child, while passing through a neighbor's yard, was suddenly attacked by a large and fierce dog, who sprung up, attempting to seize her by the left shoulder. The woman threw up her left hand to the same shoulder, and disengaged her cloak, leaving it in the animal's jaws, escaping herself without any physical injury. To the fright and lasting impression which this incident left upon her mind, the mother attributed her child's deformity. Both parents are healthy, and two children born subsequently are physically perfect. When the child was born the stump of the hand was touching the left acromion process, in exactly the position which the mother's arm was while she was disengaging her cloak, but by subsequent manipulation the forearm was brought down to its present position at a right angle to the arm. The scars on the shoulder resembled such as would have been produced on the mother had the dog succeeded in his attempt to imprint his teeth in her shoulder.

A CASE OF PNEUMOTHORAX.

DR. BENJAMIN R. SYMONDS, of Beverly, Mass., reports the following interesting case:

On July 15, 1885, H. C——, a boiler-maker by trade, presented himself at the Out-Patient Department of the Rhode Island Hospital for treatment. The patient was a man of forty years of age, well nourished, muscular, and up to the present trouble had "never had a day's sickness."

July 11th, four days before he sought the advice of a physician, he was at work as usual. Suddenly, "while inside a fire-box," "riveting stay-bolts," he "felt all filled up with air." He stopped work, and came outside, thinking the air would make him feel better. He obtained no relief, however, and very soon quit work and went home.

Severe pain in the left chest and back developed, for which he applied turpentine, but with no relief. He soon began to suffer from a slight cough, but raised nothing; found that he was unable to lie down, and lost his appetite and strength.

This is the history he gave, and his symptoms had remained about the same. We will now proceed to examine into the physical signs which immediately throw considerable light on the case.

After removing the clothes from the upper portion of the body, inspection showed the chest to be rather one-sided, the left side being much more prominent than the right; there was considerable fulness above the left clavicle, the intercostal spaces were bulging, and during respiration the right side of the chest appeared to do about all the work.

Chest measured thirty-seven inches; thoroughly expanded, thirty-seven and a half inches; fully contracted, thirty-five inches. The left side of the chest measured the most, but the power of expansion, however, was found to be in the right side.

Percussion showed exaggerated resonance over the whole of the left side, and where the muscular walls were thinnest this resonance was tympanitic. The cardiac dulness showed the heart to be displaced to the right.

Auscultation revealed increased respiratory murmur on the right side, no respiration at all anywhere on the left side. But all over the left chest could be heard metallic tinkling.

The suddenness of the attack and the attendant symptoms, together with the physical examination, seemed to me to point to a rupture of an air-vesicle and a filling up of the left pleural cavity with air.

At the end of three weeks' time the patient had regained his appetite, but could not exert himself without getting all tired out. The examination of the chest still showed that the pleural cavity was filled with air. But in six weeks I noticed a change; there seemed to be a faint respiratory murmur over the left side anteriorly, and this gradually increased in area until, in two months, the chest appeared to be in a normal condition, and the patient had gone back to his employment.

Progress of Medical Science.

MORBID ARTERIAL TENSION.—This subject, which may well claim the serious attention of the practitioner, was ably handled by Dr. Goodhart, in "The Bradshawe Lecture," for 1885. In the *London Medical Record*, November 15, 1885, a *résumé* appears, which sets forth the points of chief interest in the questions derived from the association of morbid arterial tension with Bright's disease. Bright noticed the hypertrophy of the left ventricle that occurs in chronic renal disease, and attributed it to the impurity of the blood, and to the extra work thus thrown upon the heart, in consequence of the refusal of the tissues to allow a free passage to a substance of which they disapproved. Dr. George Johnson at one time held much the same view, but abandoned it for what is now well known as the stopcock theory; this supposes that the function of the muscular coat of the arterioles is a controlling one; and that, when blood is ill-adapted to the tissues, control will be increased, and the blood shut off more or less from the tissues. Obstruction then must necessarily be created behind, and throw increased work upon the heart, and thus account for the hypertrophy of the left ventricle. As an athlete increases the size of muscles which are constantly used, so does the muscular tissue of the vessels and heart become increased by this extra work that is put upon them. The author and Dr. Dickinson are, however, of the opinion that the function of the muscular coat of the arteries is not a retarding or controlling one, as insisted upon by Dr. Johnson, but rather a propelling one. To demonstrate this theory, the action of digitalis is brought forward. Digitalis is said to increase the action of the muscular wall of the heart on the one hand, of the arteries on the other; now, if the muscular coat of the arterioles control and retard the circulation, the undoubted diuretic action of digitalis is not easy to explain. As regards the existence or not of spasm, Dr. Goodhart states that there can be no muscle, and no physiological muscular action, without the risk of the frequent exhibition of morbid muscular action, or spasm; and the assumption of some such spasm in the muscular tissues of the arteries is very agreeable in explaining many of the phenomena of Bright's disease; for instance, the headache and renal asthma are often much relieved by nitrite of amyl and nitro-glycerine, both drugs unquestionably acting by relaxing spasm and promoting dilatation of the peripheral vessels. The subject next expands in two directions: on the one hand by the hypothesis that chronic Bright's disease is an arterio-capillary fibrosis, or generalized tissue-change, and, on the other hand, by the use of the sphygmograph. Taking the arterio-capillary fibrosis theory first, the author quotes from the paper of Sir William Gull and Dr. Sutton, in which they say, "Old age is not an entity, but a set of conditions predisposing to that state which is called chronic Bright's disease." Old age is no matter of years and averages, but the running down of a spring set for an individual. It comes at times even to children; and although chronic Bright's disease is in many cases associated with renal disease, it is not essentially a matter of organs; the generalized change in the tissues of the whole body is the essential, and to some this comes not by kidney chiefly, but by lung chiefly, by brain, by heart, etc. This idea is a suggestive one, and is largely true, but it derives its strength less from the labors of the histologist than from the intuition of experience; to base it upon the non-existence or unimportance of muscular hypertrophy in the arterioles, and to ascribe the thickening which exists, to an essential hyalin-fibroid degeneration, is, in the opinion of Dr. Goodhart, a mistake. There are, no doubt, groups of cases in which the disease in the kidneys is certainly the cause of the changes in the heart and arteries; for instance, in a large proportion of cases of chronic parenchymatous nephritis the heart and arteries are hypertrophied, and this without doubt is due to the kidneys. Again, in some cases, the failure of health and of nutrition will not unfrequently combine so to reduce the arterial tension, as to deprive the circulatory system of any excuse to hypertrophy. These cases are more dangerous than those of granular kidney, because the left ventricle has more tendency to dilate, and thus to relieve the excessive tension, so that the death of the patient often forestalls the hypertrophy of the heart and arterioles. The author puts forward thef ollowing statement with reference to these cases of renal disease. "In proportion as the renal disease is sudden and severe, so is the risk of dilatation of the heart. The more insidious it is, the more likely is the cardiac hypertrophy to be present in greatest perfection." Another important point to bear in mind is that, while granular kidney often terminates in cerebral hemorrhage, the subject of chronic parenchymatous nephritis rarely dies by that means (in lardaceous disease cerebral hemorrhage is still rarer). At first sight, this would seem to favor the view that the disease of the vessels is a peculiar one, and independent of the nephritis; but it is obvious that dilatation of the heart is unfavorable to the occurrence of apoplexy; it relaxes the tension at the centre which would otherwise be put on at the periphery, and death comes about by cardiac failure, and not by peripheral hemorrhage. Concerning the pathology of the arterial changes, and the excess of the hyalin-fibroid material which is observed, together with the atrophy of the muscular coat in the arteries, the author explains his views on the following grounds. The general demand for labor is physiologically responded to by general hypertrophy of all the tissues of the arterial coats, so that not only is there

hypertrophy of the muscular coat, but also of the connective-tissue materials of the arterial walls. When this is once established, and the conditions for obtaining supplies are prohibited in any way, then the least organized tissues seem to grow at the expense of—or, as it is termed, by "sponging" upon—the more highly organized structures; and thus in a case of chronic renal disease of the tissues and vessels it is possible to find vessels conspicuous for their increase of muscular tissue in one part, and in another conspicuous for the increase of their hyalin-fibroid structures. There is another aspect of the question, which provides ground for belief in the existence of diffused degeneration before any serious mischief can be detected in the kidneys. Ever since the time of Bright it has been felt that the discovery of albumen in a patient's urine is a late and rough test of disease, and during the last few years several observers have discovered what they consider early manifestations of the disease; but it was Mahomed who taught us more than any one, by his observations with the sphygmograph, how to detect the pulse of high tension. In one of Mahomed's most valuable papers on this subject ("Transactions of the Royal Medical and Chirurgical Society," 1874) it was shown precisely that morbid conditions of the pulse (high tension) precede any evidence of disease in the kidney. Mahomed draws the conclusion from a number of observations, that the vascular condition is the cause of the albuminuria, and not the converse, as had been generally supposed. As early as 1849 Dr. Walshe stated that Bright's disease was not renal, but primarily a blood-disease. Dr. Goodhart next alludes to what he considers the strongest evidence in favor of the generalized nature of the changes which include chronic Bright's disease. It forms the subject of some of Mahomed's latest work in a paper on "Chronic Bright's Disease without Albuminuria" ("Guy's Hospital Reports," Series 3, vol. xxv.). Dr. Goodhart, however, rejects this nomenclature; and says that Bright's disease, if it means anything, means nephritis, and suggests that some such title as arterio-capillary fibrosis should be used to include all these cases.

Renal Lesions in Hereditary Syphilis.—Dr. E. Marchiafava thus describes the lesions found by him in the kidney in two cases of hereditary syphilis (*Rivista Clinica*, No. 10. 1885). The organs were of normal size, but the cortical substance was of a grayish color and dotted with minute whitish nodules, corresponding to the glomeruli. Under the microscope the lesions were seen to proceed from a diffuse arteritis of the glomerular and afferent vessels. The arteries were contracted, and finally obliterated, and became converted into a hyaline mass. The vascular loops of the glomeruli were thus destroyed, as was also at a later period the epithelium of the convoluted tubules, which derives its nourishment from the afferent vessels.

Eruptions Following the Use of Quinine.—In a recent thesis, Dr. Levassor presents a study of the different forms of eruption which may be caused by the ingestion of sulphate of quinine (*Archives Médicales Belges*, November, 1885). The eruption, which is of very rare occurrence, may be observed under four different forms: scarlatinal, rubeolar, papulo-erythematous, and purpuric. The first variety may present so close a resemblance to scarlatina as to render a differential diagnosis a matter of great difficulty. In a case seen by Dr. Levassor there were high fever, a rapid pulse, cephalalgia, and general malaise. The eruption appeared soon after and involved not only the integument but also the mucous membrane of the fauces, but was not accompanied with any pain or swelling of the tonsils. The deception was rendered complete by the occurrence of desquamation at the end of four days. The true nature of the eruption was recognized only upon its recurrence some time later after a second dose of quinine. The rubeolar form is more frequent than the preceding. It is manifested by the sudden appearance of an eruption of small, rose-colored spots, spread over the whole body, and not raised above the surrounding integument. These disappear rapidly and are followed by desquamation. The erythematous variety differs from that just described in that the red spots, project above the surface, resembling very closely a papular erythema. The purpuric form is very rare. There are a few small, lightly ecchymotic spots localized in certain regions of the body, which appear and disappear with great rapidity. These different eruptions may be caused by a very small dose of quinine, and are due to a real idiosyncrasy of the patient. They are without danger, and in case of their appearance, if the quinine is really necessary, it may be continued without regard being had to the cutaneous manifestations.

The Nocturnal Cough of Children.—It not infrequently happens that children are waked suddenly from quiet slumber by a violent, and sometimes convulsive, cough. This has been ascribed by McCoy to reflex irritation from accumulation of mucus within the nasal cavities. During the day the mucus flows away, but in the night it collects upon the sensitive areas in the nasal fossæ and excites a cough. Dr. Gonzalez Alvarez thinks this theory untenable, except in a few rare instances, and attributes the cough to laryngeal irritation. He says that the saliva and buccal mucus accumulate in considerable quantities, especially when there is stomatitis or gingivitis from dentition. Most of this is removed by the acts of deglutition which take place during sleep, but some does not so escape, but trickles into the posterior commissure of the larynx. He states that this cough occurs very frequently during the period of dentition, even when there is no nasal catarrh, a fact which leads him to reject the theory of nasal reflex irritation. The treatment of this nocturnal cough consists in diminishing the secretion by means of chlorate of potassium. A teaspoonful of a two per cent. solution is given every hour or two hours during the day, and at bedtime.—*Revue Bibliographique des Sciences Médicales*, November 22, 1885.

Resection of the Knee in Children.—The following are the conclusions of Dr. Rivera y Sanz, in an article on this subject published in the *Archivos de Medicina y Cirurgia de los Miños*, Nos. 1, 2, 6, 7, and 8, 1885: 1. The value of active intervention by means of resection of the joint is indisputable. 2. Resection should be preferred to amputation when the affection is exclusively local; but should, of course, be reserved for those cases in which other more conservative measures have been shown to be ineffectual. 3. If osteitis of the knee coexist with disease of the internal organs, resection is contra-indicated. The question of amputation in such cases is to be determined by the degree and character of the visceral complication. It has never been proven that the operation may give rise to the appearance of new foci of tubercular disease in the internal organs. When such metastases occur they are due to the fact that the operation was incomplete, and are, therefore, the result of auto-inoculation.

Fecal Umbilical Fistula.—Dr. Talini relates the case of a boy, nine years old, who had suffered for about two months from what the attending physician regarded as typhoid fever. Growing better, he was sent to the country, but while there was taken again with fever, abdominal pains, and diarrhœa. In a short time a red, tense, painful swelling appeared at the umbilicus, and opening spontaneously, a fistula communicating with the intestine was formed. The child became more and more emaciated and weak, and finally died. The autopsy revealed the existence of acute miliary tuberculosis of the pleura and peritoneum and also the presence of a large cavity at the apex of the left lung. The fistula had arisen from perforation of the transverse colon, which was adherent to the abdominal parietes, from the corrosion of a tubercular ulcer.—*Lo Sperimentale*, November, 1885.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 16, 1886.

THE DANGER TO THE KIDNEYS IN THE USE OF MERCURY.

Two years ago we called attention to a new non-mercurial treatment for syphilis, devised by Dr. Güntz, of Dresden. This treatment consisted, so far as drugs went, in the administration of "chrom-water," a watery solution of chromic salts.

We believe that the chrom-water treatment of syphilis has not gained the confidence of therapeutists. Yet Dr. Güntz does not lose faith in it, and in a recent article in *Memorabilien* he puts forth a new reason for adopting it. This reason is, in brief, that in a certain large per cent. of syphilitics the use of mercury is dangerous, because it is liable to bring on or aggravate renal disease.

Dr. Güntz collects a number of records, showing that in the systematic treatment of syphilis by mercuralization deaths reaching to 3.5 per cent. have occurred; these deaths, he believes, being due, in part at least, to the action of the mercury on the kidneys.

Dr. Güntz collects also considerable evidence from various observers, showing that the continuous administration of mercury may cause albuminuria. On this point he will meet no opposition, since it is quite generally admitted that such accidents may happen, and that albumen not very rarely appears in the urine in hydrargyrosis.

But, aside from this, Güntz argues that mercury is a dangerous drug to use when Bright's disease is already present, and in phthisis. In either of these disorders the production of mercurialism may result in grave accidents, or even death.

Now, according to Bamberger's autopsical records, there were found in 19,000 necropsies 2,430 cases of Morbus Brightii, besides a very great number of other forms of renal disease. Spiess is quoted as saying that among 220 post-mortems on syphilitics, made at the Charité, over one-half (147) had renal disease.

The large proportion of kidney disease among syphilitics is accounted for on three grounds: 1, The ordinarily considerable per cent. of Bright's disease; 2, the predisposition to renal disease in the eruptive period of syphilis (*vide* Dreyfuss-Brisac, Colvis, and Lesser); 3, the general use of the mercurial treatment of syphilis.

According to Güntz, twenty per cent. of adult men are syphilitics, twelve per cent. have Bright's disease, and therefore the probabilities are that among 20 syphilitics 2 will have renal disease. In the same way, among 100 men 20 are phthisical, so that among 20 syphilitics 4 would probably have some lung affection, contraindicating mercurialization.

Still further, our author indorses the opinion of Von Sigmund, that two-fifths, or forty per cent., of cases of syphilis are cured spontaneously or without the help of mercury.

A table can therefore be constructed, showing the proportion of syphilitics that are wrongly or needlessly treated by mercurials, as follows: ten per cent. having kidney disease; twenty per cent. having tuberculosis; forty per cent. who will get well anyway, or under other than mercurial treatment; total, seventy per cent.

This leaves only thirty per cent. of syphilitics to receive the benefits of mercury. The figures given by Güntz, whatever their significance in Germany, will have to be changed somewhat for our climate.

For example, the proportion of Bright's disease among adult males is much less than ten per cent. Among 19,000 deaths in this city in persons between the ages of fifteen and sixty, there were only 670 deaths from nephritic diseases, or about three per cent. The proportion of deaths from phthisis among adults is also less than twenty per cent., ranging from twelve to eighteen per cent. Syphilis does not affect one in every five adult male Americans. This high proportion is perhaps reached among certain classes living in large cities or manufacturing towns, but the general testimony of country physicians everywhere is that syphilis is a rather rare disease, and only met with a few times yearly by those in active practice.

The force of Dr. Güntz's figures, however, is not destroyed by the fact that they do not apply with strictness to our country. He has brought out two important points, viz., that there is always need of caution and watchfulness in using mercury continuously, and that many cases of syphilis can be treated successfully without mercury.

A NEW ERA IN THE TREATMENT OF INTERNAL DISEASES.

WE are told by Dr. Albert Reibmeyer, in *Memorabilien*, that a new era has been created in medical treatment by the labors of Körner and Oertel. "What Lister has done for surgery, Oertel has done for internal medicine." The rational basis for modern surgery is cleanliness and antisepsis; in internal medicine it is "regulation of the blood-pressure." Our medical fathers used to attempt this by exhausting venesections, nauseants, purges, and mercurials; later, we tried to get along by tonic measures which would drive on or tone up the laboring heart, or by stimulating the feebly-acting glands and absorbents. Some years ago Körner advocated the dry method of treating acute exudative processes, and even of serous transudations. In pleuritic effusions he cut down the amount of water for a time; he then gave small but frequent doses of chloride of sodium. The thickened blood, enriched with salt, attracted the exuded fluid, and absorption rapidly took place. Thoracentesis, we are told, was never necessary. Dropsical accumulations were removed by the same plan. Körner applied his principle (*Memorabilien*, 1861) in the treatment of acute Bright's disease. Of late Oertel has independently taken up and recommended the same kind of measures. Instead of

sweating and purging the patient while at the same time large amounts of water are given to make up for that lost, he simply cuts down the supply. In this way the blood-volume and pressure are lessened, and the kidneys are rested. We have already referred to Oertel's "dry method" in the treatment of fatty and otherwise inadequate hearts. He aims here, also, by diminishing the volume of blood to lessen the work of the heart.

In the *Medical and Surgical Reporter* of November 21, 1885, Dr. L. Casper reports a case in which he successfully applied Oertel's principle. The patient was a man forty-two years of age, who was apparently in the last stages of cardiac and renal dropsy. He was a small man, with a thorax deformed by kyphosis, "evidently causing great contraction of the organs of the chest." The heart was much enlarged, and its beat scarcely perceptible. Dr. Casper does not seem to have been able to make out any valvular lesion. The urine contained a large quantity of albumen. His legs were very œdematous. He was prescribed the following diet:

Fluids.—Six A.M.: Coffee or milk, ca. 125.0 grammes. *Noon*: 125.0 grammes wine. Evening: 250 grammes wine.

Meats.—Six A.M.: One egg, one roll (ca. 55.0 grammes). Nine A.M.: 80.0 to 100.3 grammes meat, one roll. Noon: 125.0 grammes meat, a little vegetables (green, if possible). Evening: 250.0 grammes wine, 125.0 grammes meat, one egg, a little bread.

Only in case of extraordinary thirst being felt could 125.0 grammes of light beer be drunk, additionally, during the evening.

The amount of liquid allowed was thus only from one pint to a pint and a quarter daily. Under this regimen he lost in weight six kilogrammes (about thirteen pounds) in five and a half weeks, his original weight being one hundred and forty pounds. In the latter period he was given four grammes of salicylic acid daily, the salicylic acid being given instead of pilocarpin, which Oertel recommends.

With the decrease in weight the patient's strength increased, until at length he was able, although with difficulty, to take walks. The difficulty in breathing became lessened, so that after two weeks the patient could sleep a few hours in bed. The œdema disappeared. The abdomen became softer, so that the liver could be felt. The quantity of albumen deposited in the urine remained unchanged for a long while. The patient, in fine, was taken from death's door and put in a comfortable state of health, and enabled to attend to business.

In another case, reported by Dr. Casper, of a similar character, the following diet was prescribed:

Fluids.—Morning: Tea, 100.0 grammes; milk, 25.0 grammes; sugar, 5.0 grammes. Noon, one hour before eating, 50.0 grammes of sherry wine. Afternoon: Coffee, 100.0 grammes; milk, 25.0 grammes; sugar, 5.0 grammes; Evening: Wine, 100.0 grammes; water, 60.0 to 100.0 grammes.

Meats.—Morning: Roll, 35.0 grammes; raw meat, chopped finely, 80.0 grammes; two soft-boiled eggs. Noon: Meat, 150.0 grammes; vegetables, 100.0 grammes; fruit, 50.0 grammes. Afternoon: One egg, soft-boiled. Evening: Two eggs, broiled meat (cold), 80.0 grammes; roll (no butter, if possible), 50.0 grammes.

Here a cure apparently resulted. These cases are not very accurately reported, especially as regards the physical examination. They serve to illustrate, however, the method of dietetic treatment.

THE TREATMENT OF PLEURISY WITH EFFUSION.

It is a well-known clinical fact that in diseases attended with the exudation of inflammatory products, the amount of the chlorides in the urine is diminished, and even entirely suppressed. This is notably the case in pleurisy and pneumonia. Indeed, some writers recommend a daily examination of the urine in all cases of the latter disease, and claim that a return of the chlorides to their normal amount argues a favorable prognosis, even though signs and symptoms may not show that the crisis has been passed. Acting upon the above theory, a mode of treating pleurisy (sero-fibrinous) was adopted some twenty years ago by Körner in Germany, and some definite results seem to have been reached. The method, in brief, consists in cutting down the fluid ingesta to a minimum and giving rapidly-absorbed salines. Common table-salt is found to fulfil this indication perfectly.

To make practical application of this method, a careful measurement is made of the fluid ingesta and of the daily amount of urine excreted. The former are then cut down (if necessary) till the daily amount of urine equals about two-thirds of the fluids taken. This is about the proportion obtaining in good health. The advocates of this method lay great stress upon the ingesta-egesta relation in all circulatory and respiratory diseases.

In exudative pleurisy, the daily quantity of urine is generally small. The amount of fluid taken is therefore restricted till the above-named ratio is reached. No warm drinks are allowed, and only just enough cold water to quench thirst. The salt is then given in moderate amount, preferably in capsules or wafers, to avoid the sensation of thirst which would result from its contact with the mucous membranes of the mouth and throat. The idea is that the rapid absorption of the saline is followed by diffusion into the exudation, with corresponding absorption of fluid, which is then excreted by the kidneys.

It is no new idea to cut off all fluids in cases of disease attended by serous exudation. It is claimed that the above method of restricted allowance is followed by just as good results as where drink is absolutely prohibited; and of course it is much less annoying to the patients. Glax has reported a series of twenty-five cases of serous pleurisy extending over a period of three and a half years. In thirteen cases the fluid did not reach above the inferior angle of the scapula. These all did remarkably well. In the remaining cases the chest was nearly full of fluid on one side. Of this latter group the average period of illness was twenty-two days. The mean period in the whole twenty-five cases was considerably less. The average duration in the "total abstinence" method has been given as twenty-eight days.

In comparison with these figures, it may be stated that the mean duration of illness in cases treated by the usual tapping and diuretics is given as over forty days. The advocates of the restrictive-saline method do not regard tapping as indicated, unless there be serious dyspnœa from the presence of fluid. At least three weeks should be al-

lowed under other circumstances before tapping is resorted to. They point to the well-known fact that paracentesis of the chest, and even merely repeated trial-punctures, may change the character of the exudation from serous to purulent. This risk has of course been greatly reduced under present antiseptic methods. It is never entirely wanting. The method outlined is certainly an easy one to follow. The slow course of serous pleurisy is but too well known. The plan suggested is well worth a trial.

THE VALUE OF TRAINED NURSES.

The Lancet has been taking the rather curious ground that "trained nurses" are hardly necessary adjuncts of medical work, even if they may not be classed absolutely as superfluous and troublesome. "What nurses are trained to do could be done as well by ordinary servants if the practitioners would and could give precise instruction as to details. The knowledge a trained nurse possesses—the very utmost she can acquire—must be simply so much quackery, in so far as it extends beyond the mere womanly qualification of ministering gently to the sick and obediently carrying into effect a careful practitioner's instructions. Unhappily, female nurses are actually allowed to pass catheters and give hypodermic injections."

That trained nurses are a most useful and almost necessary help to the physician is part of the medical creed in this section of the country. We doubt if a medical man can be found in this city who does not believe in their utility.

It must be confessed, however, that the thing is being a little overdone, and there is sure to be before long something of a reaction. A trained nurse who never should have been a nurse is capable of doing vastly more harm than even the ancient Sarah Gamps, and there are already a great many of these trained women, with enamelled badges, who are untrustworthy, gossipy, mischievous creatures, demanding large pay for ridiculously incompetent service. The social status of the trained nurse also often makes trouble. We are getting now a class of women who are so much trained that they refuse to do a single item of domestic labor not strictly in their line. They must work on embroidery in the parlor evenings, and if not quite good enough to sit with the family, they are much too good to sit with other servants.

The whole trouble comes from the almost inevitable necessity of training, as nurses, women utterly unfit for such a calling.

These drawbacks, however, do not prevent us from recognizing the extreme value of trained nurses; and *The Lancet's* position is so truly mediæval as to be unworthy of discussion.

GENEROUS CONDUCT TOWARD A BROTHER PHYSICIAN.

It is a great satisfaction to learn of the generous and spirited manner in which the members of the English medical profession have taken up the cause of Dr. Bradley, of Chesterfield, England. In November, 1884, Dr. Bradley was convicted at the Leicester Assizes, before Lord Chief-Justice Coleridge, of an attempt to commit a criminal assault upon a patient, and was sentenced to two years' imprisonment with hard labor. It was believed by the medical profession that the evidence failed to support the charge, and that due weight had not been attached to the fact that the prosecutrix had from her childhood been subject to epileptic fits, and was therefore liable to delusions. The matter was taken up by the medical press, and influential memorials were presented to Sir William Harcourt, the late Home Secretary, urging an inquiry. It was, however, not until a change of government took place that the efforts proved successful. Sir Richard Cross made a careful investigation, and last July he recommended the release of Dr. Bradley, in whose behalf an appeal for subscriptions was commenced.

This resulted in collecting the sum of $2,000, which sum was publicly presented to him on the 11th ult., at a banquet given at Sheffield.

In making the presentation Mr. Jeffries, who had been largely interested in securing the subscriptions, said that petitions in Dr. Bradley's favor had been signed by no fewer than one thousand names, including those of nearly all the leading men in the districts from which they had been sent. In the neighborhood where Dr. Bradley was living when this calamity befell him, all his brother practitioners, without exception, signified their belief in his innocence, and aided in the efforts made in his favor. Mr. Jeffries continued: "In presenting this address to him, we raise our emphatic and indignant protest against the ready credence which the law has given, in his case, to a form of accusation very easy to make, but not always easy to disprove. We do this for our own sakes, because medical men in the daily discharge of their duties, which are often of a delicate character, are exposed, more than other men, to have such charges brought against them."

The action of our English confrères is highly creditable to their unselfishness and kindly feelings. It gives evidence of a spirit of pride in our calling, and of mutual helpfulness which cannot fail to react with benefit upon all connected with or interested in the case. Yet Dr. Bradley, we believe, got no more than was justly due him in the way of support from his medical brethren.

A NEW CARDIAC TONIC.

We have seen in the past few years a number of drugs brought forward as cardiac tonics, to take the place of digitalis. Some of these, as convallaria maialis, promised at first to be really formidable rivals, but they have all been shown, on a more extended trial, to fail in some point, and digitalis still holds the first rank in cardiac therapeutics. The latest claimant is sparteine, which, while not a newly discovered substance, has hitherto not been used as a medicament. It is an alkaloid of the *spartium scoparium*, or broom-tops, and was isolated by Stenhouse in 1850. The pure alkaloid occurs in the form of a liquid, very bitter in taste and insoluble in water, but the sulphate is crystallizable and readily soluble. Lauder Brunton ranges the drug with atropine and daturine as a paralyzer of the inhibitory ganglia of the heart, and experiments have been made with it by Mils, Fick, de Rymond and others, but the conclusions of different experimenters did not agree with each other, and nothing really was known as to the physiological and therapeutical properties of the drug.

In a recent communication to the Académie des

Sciences, M. Germain Sée detailed the results of a number of experiments made upon the human subject with sulphate of sparteine in doses of one and one-half grain. He found three characteristic and constant effects of the drug: The first and most important was a strengthening of the heart; the pulse, while previously almost imperceptible, became full and strong. The second was the almost immediate regulation of the irregular cardiac rhythm, in this respect surpassing that of any other known medicament. The third result was the acceleration of abnormally slow pulsations, resembling in this respect the action of belladonna. This triple action was observed within an hour or two after the administration of the first dose, and continued for three or four days after the sparteine had been discontinued. An improvement in the general strength and in respiration was also noticed, but there was no diuretic effect produced by the moderate dose employed.

M. Sée's conclusions were that sulphate of sparteine was indicated in all cases of yielding of the cardiac muscle, whether from alteration of its tissues or from extra work imposed upon it by an impediment to the circulation. And he asserts that it will speedily improve the character of the pulse when this is weak, irregular, and abnormally slow. We shall doubtless soon have reports from other experimenters with sparteine, and if they should be confirmatory, even in slight degree, of those of M. Sée, and should demonstrate also that the drug is a safe one to use, we shall have obtained a really valuable addition to our very short list of safe and certain cardiac tonics.

QUARANTINE AT THE PORT OF NEW YORK.

From 1880 to 1884, inclusive, nearly two millions of immigrants (1,986,278) entered the port of New York. The Health Officer has power to quarantine only yellow fever, cholera, small-pox, and typhus; yet in 1884 there were 154 cases of other contagious diseases, such as scarlatina, diphtheria, etc., introduced by immigrants.

In 1884, the total number of vessels entering the port and inspected by the Health Officer was 8,086. These carried 321,231 immigrants. Among them were found 184 cases of contagious and infectious diseases.

To accomplish all this work of inspection and quarantine, the State has a Port Health Officer and a Quarantine Commission of three. The Quarantine Commissioners have no very well-defined duties, but they draw salaries to the amount of $7,500 annually, and their other expenses make a total of about $33,000 annually to the State.

The Health Officer is paid by fees, and gets, it is believed, from $50,000 to $75,000 yearly.

It is very desirable, from an economic point of view, that there should be some change in the present condition of things. The offices of the Quarantine Commissioners should be abolished, the fees should be lowered, and the Health Officer placed upon a salary, and made accountable to the State for his receipts. So far as efficiency in administration goes, the work of our port officers will bear criticism well. They have at times even done brilliant service in averting epidemics and keeping out disease; this is no excuse, however, for perpetrating a burdensome and extravagant method of maritime quarantine.

The real cause of its continued existence now is, that the "machine" must be run and the "boys" be looked after.

THE USE OF NAPHTHALIN IN CHRONIC DIARRHŒA AND IN TYPHOID FEVER.

Considerable has been written regarding the application of naphthalin in therapeutics. This is a substance derived from coal-tar, having a white, crystalline appearance, and a pungent odor, strongly suggestive of a gas factory. It was first used medicinally, according to Cagnoli, in 1842, as an expectorant, but did not gain the attention of physicians. In 1884, Dr. B. Testa studied its physiological properties. His conclusions were somewhat negative. He found that it was absorbed with difficulty, and that it had no effect upon normal temperatures, but that it reduced febrile temperature, diminished the excretion of urea, and did not cause albuminuria.

Dr. G. Fronmüller (*Memorabilien*, 1883, p. 257) used naphthalin in chronic bronchial catarrh and phthisis, with no very positive results.

Attention was first strongly called to the drug by Professor Rossbach, of Jena, who, at the Congress for Internal Medicine of 1884, strongly recommended it in disorders of the intestine. In chronic diarrhœa and dysentery, with or without ulcerations, Rossbach found naphthalin very efficient. He gave it in single doses of gr. ii. to gr. x. t.i.d., increasing this sometimes to daily doses of five grammes. His prescription for an adult is:

℞. Naphthal. puriss,
Sacchar. alb.....āā 5.00 grammes.
Olei bergamot.....0.03 gramme.
M. Sig.—Pulv., div. in chart No. xx. Sig.—5 to 20 daily.

The administration of naphthalin causes the fæces to be perfectly disinfected and odorless. Its action in cases of chronic diarrhœa is rapid, and most cases, if uncomplicated, are cured in from five to fifteen days. Dr. G. V. Liebig, of Reichenhall, subsequently reported a good result from enemata of naphthalin in a case of dysentery (*Bayr. ärztl., Intell.* Bl. xxxi. 29, 1884).

Dr. Ph. Pauli, of Lübeck (*Berlin, Klin. Woch.*, No. 10, 1884), used naphthalin with good success in the intestinal catarrhs of children. He observed, however, in two cases, some unpleasant after-symptoms, and he expresses the opinion that the drug should be given to small children with care, and that they should be watched. Not more than three grains every three hours should be given to children two years old.

Dr. E. Lehmann observed good results from naphthalin in two cases of chronic intestinal catarrh. In another case he noted some unpleasant effects, resembling strangury, from the drug. In acute diarrhœa, and in the vomiting of children, naphthalin has been given with contradictory results. In dilated stomach, and in the diarrhœa of phthisis, naphthalin has sometimes succeeded and oftener failed (Schutz, Cagnoli, Ewald, Pauli).

Several observers have found that naphthalin given in large doses will, at times, cause a slight bladder

catarrh, burning urine, and even strangury, but Rossbach contends that these accidents can be avoided by beginning with small doses and gradually increasing them.

It is in connection with typhoid fever that the claims for naphthalin are greatest. Rossbach and his assistant, Dr. Götze, believe that it has the power of shortening the course of this disease, lowering the temperature, and, if given early, of even aborting an attack. The *Therapeutic Gazette* gives the following account of Götze's observations, made upon twenty-five cases:

"All cases, with the exception of three, were uninterruptedly treated with naphthaline during the entire typhoid process, all other medication being excluded. The administered dose was one gramme (fifteen grains) and five to seven grammes *pro die*. (The drug used was, according to Rossbach's recommendation, always the purissimum resublimatum with the oil of bergamot.) In the course of the disease all patients had used over seventy grammes (two and one-third ounces), some even as much as one hundred and fifty grammes (four and one-half ounces).

"Untoward secondary effect was noted only in a single case, in which toxic symptoms, marked by cerebral functional depression, set in. The general course of all cases was exceptionally favorable, and the benign character of the intestinal symptoms very pronounced. In three cases an actual abortion of the affection appeared unquestionable; other cases coming under treatment early terminated in six to ten days, in others the fever did not last beyond sixteen days; while in another series the duration of the disease was not shortened at all, though the period of thermal elevation was sensibly shortened. Three cases perished from grave complication, though not from the typhoid process itself. Of considerable interest are the comparative trials with antipyrine and naphthalin. Repeated observations convinced Götze that naphthalin promptly reduced the febrile temperature in cases in which antipyrine (given in antifebrile doses) proved useless."

Democracy and Medicine.—In the name of freedom a Mr. Lowry recently introduced into the House of Representatives the following joint resolution: "Resolved, by the Senate and House of Representatives of the United States of America in Congress assembled, that it shall be a misdemeanor, punishable by a fine of five hundred dollars and dismissal from office, for any officer of the United States Government, civil, military, or naval, to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally graduated members, in the examination and appointment of candidates for medical service in any of the departments of the Government. Section 2. That all such examinations shall be open to the attendance and witness of all physicians, citizens of the United States; and that duly certified copies of the complete records of all the details of said examinations shall be placed on file in the office of the Librarian of Congress, subject to the inspection and use of members of Congress."

When Doctors Disagree.—"The value of phosphorus in many diseases of nervous origin is too well known to call for comment."—*Dr. William Murrell.* "In my private note-book I attach to phosphorus the name 'humbug.'"—*Dr. Samuel Wilks.*

News of the Week.

A Boston Polyclinic.—The Boston physicians who have been giving "Clinical Courses of Instruction in Medicine" have organized a "Polyclinic" for the better prosecution of their work. We are glad to note this evidence of medical enterprise, but regret that our cultured confrères have adopted the unauthorized and artificial spelling of the word to which the misguided orthographists of New York gave birth. There is no such word as "Polyclinic" in any standard dictionary, general or medical. Our learned contemporary also speaks of the "Vienna Polyclinic," an institution which the Viennese would not recognize. "Policlinic" is a word sanctioned by years of usage, and applied to just such institutions as are now being organized in this country. There is no need of a new word.

Dr. John Dickson, one of the oldest and most prominent physicians of Pittsburg, Pa., died on January 8th, from the effects of injuries sustained by a fall some months ago.

The New York City Board of Health condemned and destroyed, in the last calendar year, 799,410 pounds of meat and fish, 212,000 pounds of fruit, 37,905 pounds of canned goods, 72,700 pounds of candy, and large quantities of other kinds of food whose consumption would have raised the death rate. Since January 1st the department has been forced to dismiss many of its inspectors, including several whose duty was the inspection of meat, fish, and milk, and to cut down the salaries of others who remain in the service.

A Surgical Feat.—Dr. Samuel W. Francis says that a clever chiropodist can change the "toe callous" into the To Κάλον!

Pass and Pluck in Prussia.—In the nine Prussian Universities, during the session of 1884–85, 569 doctors and candidates in medicine were examined for the license to practise (*Venia Practicandi*). Of these 120 presented themselves for the second time, the remaining 449 being new candidates. More than seventy-five per cent. passed (430), 4 of these with the mark "very good," 270 with "good," and 156 with "satisfactory." Berlin had 221 candidates, of whom 64 failed or retired; Griefswald, 80, with 16 failures; Halle, 65, with 14 failures; Breslau, 64, with 15 failures; Göttingen, 37, with 8 failures; Kiel, 31, with 10 failures; Bonn, 30, with 2 failures; Königsberg, 28, with 8 failures; and Marburg, 13, with 2 failures.

A Severe Epidemic of Small-pox is reported to be raging in Vienna.

Laicization of Paris Hospitals.—It is stated that the resolutions recently passed by the Paris Municipal Council relative to the secularization of the hospitals of that city are being put into execution. The Sisters of Mercy in the Cochin Hospital have been ordered to vacate the premises, and their place will be taken by a new staff of lay attendants. It is the intention of the Council to banish, if possible, the religious element from every one of the hospitals, including the Hôtel Dieu.

THE CHOLERA is reported to have broken out in Venice.

"THALLINIZATION" IN THE TREATMENT OF TYPHOID FEVER.—Professor P. Ehrlich and Dr. B. Laquer, of Berlin, announce that by giving thallin almost continuously in grain doses every one or two hours, or half-grain doses every half hour, they are able to keep down the temperature of typhoid fever almost to normal, and materially to relieve the symptoms. From one to three grammes of the drug are given daily.

PRIZES GIVEN BY THE ACADÉMIE DE MÉDECINE.—On December 15th, the Paris Académie de Médecine bestowed fifteen prizes to the amount of nearly 24,000 francs, or about $5,000.

THE QUESTION OF PROFESSIONAL SECRETS.—An eminent French judge has just publicly delivered an important opinion on the subject of professional secrets. According to French law, Article 378 of the Code, all physicians, surgeons, midwives, or druggists who may become possessed of secrets by the practice of their profession are forbidden to reveal them, except in certain cases laid down by the law, where they are obliged to denounce criminals. Infraction of the law involves a punishment by a fine of about one hundred dollars and imprisonment of from one to six months.—Cor. *Philadelphia Medical Times.*

THE SUCCESSOR TO THE LATE PROFESSOR ROBIN is announced to be Dr. Mathias Duval.

THE WINES OF COCA have become both numerous and popular. Several analyses made by Dr. Charles L. Mitchell confirm the view that many physicians have reached, that most of the virtues of coca-wine are due to the alcohol. The amount of cocaine in the pint bottles ranges from one-fifth of a grain to four grains, or from six grains to thirty-three grains of leaves per ounce. Many of the coca-wines have less than two grains to the bottle. Assuming the dose of cocaine to be from one-fourth to one-half of a grain, it is not perhaps desirable that there should be more than two to four grains of the alkaloid in a pint of wine. Dr. Mitchell gives it as one-fifth of a grain of the alkaloid, or thirty to forty grairs of the leaves, to an ounce of the wine.

OTHER TRAINING-SCHOOLS FOR NURSES IN INSANE ASYLUMS.—Referring to our editorial on the Training-school for Nurses at the Buffalo State Insane Asylum, Dr. J. C. Shaw, Superintendent of Kings County Insane Asylum, sends a circular giving an account of the establishment, February, 1885, of a training-school in his asylum. The school is in charge of Miss Hawley, assisted by Miss Fay. A course of study and work lasting two years is required. Dr. Shaw writes that a school is, he thinks, being organized in connection with the State Asylum at Norristown, Pa.

A THIRD ASYLUM FOR THE INSANE in Michigan, has recently been completed at Travers City, and patients have been transferred to it from the other over-crowded institutions.

SURGICAL SERVICES THROWN IN.—The following, from a practitioner of this city, will explain itself:

"I enclose part of a letter which I have recently received. The writer is a man of fair means, and has heretofore paid moderate fees. He has been to the Presbyterian Hospital, and evidently has money enough to provide himself with the luxury of a room 'this season of the year,' but he seems to regard the *surgeon* as a part of the bed-clothes, and included in his $15.00 per week.

"'At the Presbyterian Hospital all they charged was for room. Everything there included, such as *nurse*, *surgeon*, and medicine, etc. If I went in a *ward* it was *one dollar* a day and everything included, but I do not wish to go in a ward this season of the year.'"

A POSTHUMOUS TREATISE ON MEDICINE.—A literary event of interest in London medical circles is the publication of the long-expected work by the late Dr. Hilton Fagge, on the Principles and Practice of Medicine.

TELEPHONES FOR THE SICK CHAMBER.—A London firm has devised a telephone by which persons suffering from contagious disorders can safely communicate with their friends.

THE LATE DR. EPHRAIM J. CLARK, OF STATEN ISLAND, N. Y.—At a regular meeting of the Medical Society of Richmond, the following resolutions, commemorative of the death of Dr. Ephraim J. Clark, were unanimously passed:

"*Whereas*, in the providence of God, after a long and useful life, our revered friend and venerable fellow-member of the Medical Society of the County of Richmond, Dr. Ephraim J. Clark, has entered into his eternal rest, Therefore, be it

"*Resolved*, That in the death of Dr. Clark our Society has lost not only its oldest member, but the sole representative of the old school of physicians, so distinguished for urbanity, courtesy, and strict professional etiquette.

"*Resolved*, That his memory be cherished and his example emulated by us, his survivors, as a faithful and obliging friend, a kind and skilful physician, a willing and trusted counsellor, and a courteous Christian gentleman.

"*Resolved*, That the sympathies and condolence of this Society are due, and are hereby tendered, to the family and relatives of our deceased brother, in the belief that their loss is his eternal gain.

"*Resolved*, That these resolutions be engrossed in the archives of this Society, and that a copy of them be sent to the family of the deceased."

THE HOSPITAL SUNDAY COLLECTION amounted, at last accounts, to $35,361.07.

CARING FOR THE INSANE.—In illustration of our criticisms recently made upon this point, we would call attention to the fact that the New York City Female Lunatic Asylum, which has a capacity for 1,250 patients, contained, on October 1st, 1,628, or over 400 in excess.

THE POPE is reported to be suffering from morbus Brightii, and he has summoned, one Dr. Mezger, of Amsterdam, a specialist in that disease (!), to Rome, in order to receive advice and treatment from him.

THE LARGEST CALCULUS ever successfully removed from the bladder was by DR. DUNLAP, of Springfield, Ohio. It weighed over twenty ounces. So says the *Medical Age.*

MEDICAL SOCIETY, STATE OF NEW YORK.—Additional papers to be read at the next meeting of the Medical Society of the State of New York: "The Clinical *vs.* the Microscopical Evidences of Disease," H. C. Coe, M.D., New York; "Hints on the Treatment of Diphtheria," J. M. Bigelow, M.D., Albany; "The Curative Potency of Prolonged Sleep," J. Leonard Corning, M.D., New York; "Non-venereal Syphilis," L. Duncan Bulkley, M.D., New York; "Diet in Cancer," Ephraim Cutter, M.D., New York; "The Prognosis and Treatment of True Lateral Curvature of the Spine," Newton M. Shaffer, M.D., New York; "Bacteria, Identification and Classification of Species," William Hailes, Jr., M.D., Albany; "Hemorrhoids in Pregnancy," W. H. Bailey, M.D., Albany; "Relation of State Boards of Health to Local Boards," Maurice Perkins, M.D., Schenectady; "On the Adoption of some General System of Distributing the Insane of New York State, making Use of the Existing Asylums, and Providing for the Accommodation in each of both Acute and Chronic Insane," Frederick Peterson, M.D., Poughkeepsie.

NEW YORK PATHOLOGICAL SOCIETY.—Officers for the ensuing year: John A. Wyeth, President; T. Mitchell Prudden, Vice-President; Wesley M. Carpenter, Secretary; John H. Hinton, Treasurer; John C. Peters, Editor; Frank Ferguson, Assistant Editor; John C. Peters, T. Mitchell Prudden, L. Emmet Holt, W. P. Northrup, L. Waldstein, Committee on Admissions and Ethics; H. Marion Sims, E. C. Wendt, Members of Committee on Publication. The names of all in arrears in dues four years and more were dropped from the roll.

HOT AËRATED WATERS.—A method has been devised by Mr. Edward Warker, of this city, by which it is possible to raise carbonic acid water and other aërated beverages to any desired temperature, while keeping them at the same time fully charged with the gas. This is effected by passing the fluid through pipes surrounded by hot water, and the contrivance is so simple that it can be used without trouble at the bedside.

Reviews and Notices.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE. By JAMES TYSON, M.D. Fifth Edition, pp. 249. Philadelphia: P. Blakiston, Son & Co. 1886.

THE writer in this edition brings his work up to date with reference to the new and delicate tests for albumin, and with reference to the presence of proteids in the urine and the methods of detecting them. Otherwise the book is very nearly the same which has been found useful by so many in their pursuit of information on this subject.

A CHART OF PHYSICAL SIGNS OF DISEASES OF THE HEART AND RESPIRATORY ORGANS. Compiled from the Works of various Authors, with Original Ideas and Observations. By R. C. M. PAGE, M.D., Instructor in the New York Polyclinic, and Attending Physician for Diseases of the Heart and Lungs to the Northwestern Dispensary. New York: Press of Stettiner, Lambert & Co. 1885.

THE title of this chart explains itself. The tables are concise and well arranged, and are calculated to be of real value to the student or young practitioner who has not yet had the significance of the various thoracic sounds engraven in his memory by practical experience.

DISEASES OF THE NOSE AND THROAT. By CHARLES E. SAJOUS. Pp. 439. Philadelphia: F. A. Davis. 1885.

DR. SAJOUS has brought together his lectures, delivered at the Jefferson Medical College, on rhinology and laryngology. The hundred illustrations colored to represent the anatomical and pathological conditions of the parts under consideration make the work unique and exceedingly valuable. The perseverance and ingenuity of the author, who is also the artist, excite admiration. The text itself will interest and aid the practitioner in search of minute details for the better examination and treatment of diseases of the nose and throat.

ORGANIC MATERIA MEDICA AND THERAPEUTICS. By JAMES YOUNG SIMPSON, M.D. Pp. 337. New York: J. H. Vail & Co. 1885.

THIS manual of the organic preparations of the pharmacopœia presents, in a condensed form, the name, properties, and general effects of each drug. While intended primarily for students, it is yet a valuable acquisition to the library of anyone desiring to refresh his memory. It is arranged in accordance with the "Sixth Decennial Revision of the United States Pharmacopœia." Dosage is given in terms both of the old and the metric systems. A new feature is a list of common names for preparations, *e.g.*, Friar's Balsam, Compound Tincture of Benzoin, etc. This will prove of great service to the student. The typographical appearance of the book is excellent, and it deserves a wide sale.

AN INTRODUCTION TO THE STUDY OF THE DISEASES OF THE NERVOUS SYSTEM, being Lectures delivered in the University of Edinburgh during the Tercentenary Year. By THOMAS GRAINGER STEWART, M.D. 8vo, pp. 237. Philadelphia: J. B. Lippincott Company. 1885.

THE first three chapters cover the subjects of the medical anatomy of the nervous system. The author gives a very good account of this subject, well illustrated by cuts which are mostly old, but to which are added some heliotype representations of sections of the brain. Certain of our expert cerebral anatomists might learn something from the nicety with which these latter are done. The lectures from the fourth to the twelfth are taken up with a description of the method of examining the nervous system. This part of the work is an extremely interesting and instructive one, and should be thoroughly studied. The closing chapters are devoted to some considerations regarding the pathology and treatment of nervous disease. Many physicians who feel a desire to acquaint themselves with modern neurology, but who feel somewhat afraid of the supposed heavy task, will find Dr. Stewart's book just the thing desired. It is clear, systematic, and accurate. It does not pretend to be complete and exhaustive.

PRACTICAL SUGGESTIONS RESPECTING THE VARIETIES OF ELECTRIC CURRENTS, AND THE USES OF ELECTRICITY IN MEDICINE, with Hints relating to the Selection and Care of Electrical Apparatus. By AMBROSE L. RANNEY, M.D. Pp. 147. New York: D. Appleton & Co. 1885.

THIS is a useful little work, presenting in a brief way the subject of electro-technique and electro-therapeutics.

THE EXTRA PHARMACOPŒIA, with the Additions introduced into the British Pharmacopœia, 1885. By WILLIAM MARTINDALE, F.C.S. Medical References, and a Therapeutic Index of Diseases and Symptoms. By W. WYNN WESTCOTT, M.B., Lond. Fourth edition. 16mo, pp. 416. London: H. K. Lewis. 1885.

THIS little work gives an account of many drugs and chemicals in practical use, but not officinal. It is useful for reference, now that so many new drugs are being forced upon one's notice.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 7, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

DR. R. H. DERBY, from the Special Committee consisting of Drs. Agnew, C. S. Bull, Webster, G. M. Smith, Derby, and the President *ex-officio*, made a report on

COMMUNICABLE EYE DISEASES

in asylums and residential schools in this city and vicinity.

This Committee has been aided in its work by Dr. J. J. Milhau, representing the State Board of Charities, Mr. Arthur G. Sedgwick, of the State Charities Aid Association, Mr. Elbridge T. Gerry, of the Society for the Prevention of Cruelty to Children, and Mr. James Gallatin, representing the New York Association for Improving the Condition of the Poor.

The Committee has secured an examination of the eyes of the children in *fifty* asylums and residential schools. These examinations were conducted by experts in ophthalmology, who accompanied sanitary inspectors sent by the Board of Health, and the experts included men of the standing of Roosa, Loring, Noyes, Mittendorf, giving ample guarantee that the inspection would be conducted in the most thorough manner.

As samples of the reports made by the inspectors, those from the Deborah Orphan Asylum, 95 to 103 East Broadway, the Roman Catholic Orphan Asylum, Fifth Avenue and Fifty-first Street, and the St. Joseph Asylum, Eighty-ninth Street and Avenue A, were read, giving a total of 1,134 children, of whom 590 were found suffering from communicable eye disease.

The general conclusion of the report was that a worse condition of things exists now than was found when the inspections were made which formed the basis of the preliminary report made by the Committee in June last. The reports submitted showed that the physicians who have charge of these asylums make no systematic inspection of either the buildings or their inmates; that no adequate system of quarantine is practised; that many of the asylums are grossly overcrowded; and that in nearly all the children are admitted without due examination of their physical condition, especially with reference to their eyes.

The report concluded with a copy of an Act for the better preservation of the health of children in institutions, written by Mr. Gerry, endorsed by the Committee, and to which the Academy gave its approval. The proposed Act provides for careful examination of the eyes of each child applying for admission to an institution, forbids the entrance or remaining in contact with children not affected with contagious or infectious eye disease, and prevents overcrowding.

THE TREASURER'S REPORT,

DR. W. F. CUSHMAN, Treasurer, showed a balance in favor of the Academy of $880.58. During the last year fifty-five new Fellows have been admitted.

DR. F. A. CASTLE, Treasurer of the

BOARD OF TRUSTEES,

reported a balance of $647.12; that the library fund is $4,548.66; that the general permanent fund is $1,280.74; and that there is a balance of $137.80 of the fund for the liquidation of the mortgage.

THE COMMITTEE ON LIBRARY

reported that the library contains 27,000 bound volumes, 9,500 pamphlets; that during the last year there had been donated 1,320 bound volumes, 1,214 pamphlets, and 23,865 journals; and that there had been 4,360 visitors.

Other annual reports were read by title and referred, and the Academy then passed to the consideration of proposed

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

The more important of those adopted are the following: The Committee on Medical Education and the Committee on Medical Ethics were abolished.

The Academy retained its power to discipline its Fellows by adopting the following section, introduced by Dr. Agnew:

"The Council shall, on a written statement signed by a complainant and duly forwarded to the Secretary, take cognizance of any complaint against a Fellow. The Council may, after investigation, dismiss the complaint or transmit its findings for further action by the Academy."

Other clauses in the By-Laws provide that:

"The Academy may suspend or expel a Fellow."

"The public shall be invited to listen to the Anniversary discourse."

"Each Resident Fellow on admission shall pay an initiation fee of *twenty-five* dollars; the dues shall be remitted during the year in which fellowship is acquired."

"Any Resident Fellow who is qualified to vote at an annual election, and has paid five annual dues, may compound for all future annual dues by the payment at one time of one hundred dollars."

OFFICERS FOR THE ENSUING YEAR.

The Tellers reported that the following had been elected:

Vice President—Henry D. Noyes.
Corresponding Secretary—Wesley M. Carpenter.
Treasurer—William F. Cushman.
Trustee—George A. Peters.
Member of Committee on Admissions—J. H. Emerson.
Member of Committee on Ethics—S. Oakley Vander Poel, Sr. (Committee abolished by Amendments to Constitution and By-laws).
Member of Committee on Education—D. B. St. John Roosa (Committee abolished as was the Committee on Ethics).
Recording Secretary—Arthur M. Jacobus.
Members of Committee on Library—W. H. Katzenbach (full term), Laurence Johnson (short term).
Delegates to the Medical Society of the State of New York (elected by the Academy, formerly appointed by the Council)—W. R. Birdsall, R. W. Amidon, A. S. Hunter, W. E. Bullard, and G. Bacon.

The Academy then adjourned.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 4, 1885.

BEVERLEY ROBINSON, M.D., PRESIDENT, IN THE CHAIR.

DOUBLE HARELIP.

DR. R. F. WEIR presented two infants upon whom he had operated for double harelip. In one the complication of an attachment of the inter-maxillary bone to the tip of the nose existed. By the operation adopted in this case, a V-shaped piece of the vomer was removed, the inter-maxillary process crowded backward and fitted into the space between the alveolar borders of the maxillary bone on either side, and the nipple-like process of skin utilized in forming the tip. In both patients the result was unusually good.

DR. C. L. DANA read the paper of the evening (see page 57), entitled

THE RELATION OF LITHÆMIA, OXALURIA, AND PHOSPHATURIA TO NERVOUS SYMPTOMS.

DR. W. H. DRAPER said he had listened with great interest to Dr. Dana's paper, and was quite prepared to agree with what he had said regarding the impropriety of creating a diathesis based on the presence of ox-

alate of lime, uric acid and its salts, or the phosphates in the urine. He had long been interested in the association of functional nervous disturbances and these conditions, but with regard to their association with a rheumatic rather than with a gouty taint, he was not quite so clear as to the distinction to be drawn between gout and rheumatism as to be able to say that the lithæmic state did not indicate a gouty habit as positively as it did a rheumatic one. He believed that gout and rheumatism were so nearly alike that it was hardly possible to dissociate them. The fact that uric acid had long been regarded as the materies morbi of gout had fixed in the minds of people the idea that it was the essential cause of this malady, but he believed there were a good many who doubted whether uric acid was anything more than a result of certain changes in the condition of the blood going to excite gout, and that the uric acid itself was not necessarily a cause of that disease. In other words, that there could be gout without an excess of uric acid in the blood. He had often thought that, by carefnl inquiry into the family histories of persons suffering from nervous disturbances associated with lithæmia, it would be found that there was a gouty tendency. Such, at any rate, had been the result of his own observation. The person suffering from the functional nervous disturbance might himself be free from arthritic disease. It is common enough to find in the same family cases of glycosuria, gout, and lithæmia; therefore, Dr. Draper could not see why we should not speak of lithæmic disease as gouty disease, just as we would speak of gouty disease as lithæmic disease; or, of lithæmic symptoms as gouty symptoms, just as we would speak of gouty symptoms as lithæmic symptoms. Another point which he thought allied them was the fact that they were relieved by the same hygienic and dietetic recommendations. In his experience the gyclosuric were not more relieved by nitrogenous diet than the lithæmic subjects. This might seem like a broad and strong statement, but it was based upon a very large personal experience, and he thought it was confirmed by the experience of others.

Dr. Dana had not treated of the management of these conditions, and he wished, therefore, to say a few words with regard to the dietetic management, especially of the lithæmic state. He could probably best do this by the relation of a case which came under observation two or three years ago, in which the patient presented in a striking manner most of the functional nervous derangements associated with this state. The patient was a married woman who had been travelling in Europe a number of years. She had gouty antecedents, but had never had gout herself. She began to suffer, shortly before her return to this country, from a great variety of nervous disturbances—parasthæsia of all sorts, with great nervous depression; she was melancholic, apprehensive, feared to go out alone, was subject to attacks of dizziness and of numbness of the extremities. She consulted a physician in London who told her she was threatened with apoplexy, and she came home in great terror. When Dr. Draper saw her she was in a pitiable condition, afraid to stay in her room alone, afraid to go out, had alarming attacks of vertigo, would awake in the night with numbness and coldness of the extremities, associated with pallor. The arms and legs at times had the appearance of marble, being perfectly numb and cold. This state would return frequently, two or three times during the night. The urine was found to contain an enormous amount of free uric acid; it was very acid in reaction, and of high specific gravity, and always deposited urates and oxalates. She had the usual dyspeptic symptoms which are associated with such nervous disturbances, a great deal of acid eructations, occasional attacks of diarrhœa alternated with constipation. What was of rare occurrence in his experience, the patient was unable to use alkaline medication; she could not take soda or potash in any form in which he could present it to her. She had been in the habit of taking a mixed diet and wine. Dr. Draper withdrew everything in the form of carbo-hydrates, allowing her only animal food and milk. The urine rapidly changed in character, becoming clear, of lower specific gravity, and free from crystalline deposits, or the deposits of the salts of uric acid. With this change in the urine there came a coincident change in the nervous symptoms. She ceased to have vertigo and the distressing attacks of numbness. The patient had been more or less under his observation since that time, and she informed him that she was unable to use any bread, or any starchy or saccharine food whatever. If she ate bread there would be an immediate return to the uric acid sediments, dizziness, palpitation, and numbness which before distressed her. She had become quite thin; she had before been quite stout; but so long as she continued the nitrogenous diet and milk she enjoyed a very fair degree of health. This was an extreme illustration of what he was sure the experience of all who had tested the value of a nitrogenous diet, or the withdrawal of carbo-hydrates and saccharine foods from the diet of persons suffering from lithæmia, would confirm. He regarded the dietetic management as being by far the most important element in the treatment of these cases. Medication was a secondary matter. Alkaline remedies were, of course, useful, and often necessary.

In addition to the nervous disturbances which characterized the lithæmic state, Dr. Draper thought this condition was often responsible for chronic catarrhal affections, most often of the gastro-intestinal tract, but not infrequently of the respiratory tract. Whether these lesions were brought about by the same changes which provoked the central nervous disturbance or not, he was unable to say. It would seem as if the nervous disturbances were the result of certain vaso-motor derangements, provoked by the condition of the blood, which characterized these cases, and it seemed not improbable that the trophic derangements had a similar origin. In these cases also he believed the dietetic management of most importance.

Dr. E. D. Hudson, Jr., said his views regarding so-called lithæmic and neurasthenic cases had changed somewhat from time to time. At one time he regarded the cases as largely of a neurotic nature primarily, but his views had gradually changed, until he had come to the conclusion that the majority of neurasthenic cases—cases in which there was prostration and functional nervous disorder—were of lithæmic origin, and that the liver was the organ especially at fault. He appreciated the importance of reaching more definite conclusions regarding the nature of these cases by making such observations as Dr. Dana had made—examinations of the urine, etc. At one time he felt pretty sure that uric acid or oxalate of lime existed pretty uniformly in this class of cases, but he had since had opportunity to watch two or three cases for a long period of time, and he had found such great variations in the character of the urine, in the quantity of urinary salts, etc., that he had come to feel that the quantity of urine passed or the kind of salts it contained were of little value. It seemed to him pretty evident that most of these cases occurred in persons of rheumatic or gouty diathesis. He had seen one case in which there was a singular transition from acute and subacute rheumatism to lithæmic symptoms. The patient would have rheumatic tendencies for a period, which would disappear, when he would begin to suffer from lithæmic symptoms, pertaining to the nervous system, etc.; and after being treated for this, there would be a return of the rheumatic symptoms.

The treatment which he had tried had been based upon the different theories as to the cause of the condition. He had not found the treatment, based upon the view that the condition was chiefly a nervous disorder, to be successful. Such remedies as are considered tonic in these conditions—quinine, alcohol, wine, fluid extract of coca, etc.—might relieve these neurasthenic patients of their depressed state for a brief period, but it was a form

of exhilaration which soon gave way to a depression even greater than that which had previously existed. He had, therefore, come to discourage the use of such remedies. Within a few months he had directed treatment more especially to the regulation of the hepatic function, by administering podophyllin, extract of colocynth, dilute muriatic acid, in a bitter tonic, and in a large proportion of cases the results were very good. In addition, he generally restricted the patients to a nitrogenous diet—meats, stale bread and butter—avoiding saccharine and starchy foods, and especially fruits. Still, in the treatment of all cases of this class Dr. Hudson had found that the patients tired of one diet, and he had recently tried the method of allowing the patient to eat of almost everything, and he was somewhat surprised that they had remained free from lithæmic symptoms; and the opinion had been gaining ground with him that, after all, gastric indigestion and direct influence upon the pneumogastric nerve might have something to do in the causation of the condition. There seemed to be an immediate disturbance, in many cases in which digestion was deficient, before it would seem that an acid or poison could form within the system to cause such a variety of nervous symptoms. He always bore in mind a remark by Dr. Flint, that in dyspepsia, as a rule, methods of exclusive diet were not desirable. Probably the same remark would apply to the cases under consideration, and, besides, there should be regular exercise and means taken to stimulate the superficial circulation and to regulate the hepatic function and the stools. By the use of such remedies as nitro-muriatic acid, or bitter tonics, Vichy water, lacto-peptine with bismuth or soda, and something to stimulate the pneumogastric nerve, such as cubebs or ginger, he had found patients who had been treated unsuccessfully by other methods for indigestion and associated nervous symptoms, soon able to eat a promiscuous meal three times a day. Perhaps, however, he would yet meet with cases in which this method of treatment would be unsuccessful, but the facts which he had accumulated went far to prove that the improvement was not simply imaginary, inspired by hope in a new method of treatment.

Dr. G. B. Fowler had examined a great many specimens of urine, and had for a long time kept accurate records of such examinations, and he must say that he believed there was such a thing as oxaluria. The majority of cases of so-called nervous dyspepsia presented constant and marked depositions of oxalate of lime. But in order to determine this it was not sufficient to examine one specimen of urine to-day and another three or four weeks hence. The patient should bring his urine for examination every day for at least a week, for the sources of oxalate of lime in the urine were many, and they might be trivial or otherwise. It might be due directly to the food taken, for certain kinds of food contained an excess of oxalate of lime, and it might appear in the urine without indicating anything pathological. Again, its presence might be due to the food indirectly, because of faulty digestion. It might also be due to insufficient oxidation, for oxalic acid is one of the end products of complete assimilation, and if, through respiratory or cardiac disease, or blood-disease which impairs oxidation, the elements which are thrown off as a result of combustion in the tissues are not sufficiently oxidized, the higher retrograde products, uric acid, oxalic acid, would appear; but in the majority of instances oxalic acid is due to catarrh of the intestinal tract. The presence of acid fermentation gives rise to flatulence, pain, reflex irritations, etc. He therefore thought there is such a thing as oxaluria, not a primary affection, but secondary to interference with digestion. The same might be said of uric acid and phosphates in the urine.

As to treatment, he was decidedly in sympathy with Dr. Draper regarding the value of a nitrogenous diet. He had seen a great many cases of most marked nervous disturbance, some having about all the symptoms of locomotor ataxia, ultimately relieved by persistent use of nitrogenous diet. He was himself an example. Three years ago he did not weigh more than one hundred and ten pounds; he suffered from marked nervous symptoms, such as involuntary tremors which caused his bed to shake, from flatulence, and other gastro-intestinal disturbances. These symptoms passed away when he confined himself to a nitrogenous diet, and he now weighed one hundred and fifty pounds. When Dr. Salsbury made public his views regarding the appearance of the blood in hog-cholera, dyspepsia, etc., through the columns of The Medical Record in 1861–62, they were not accepted with great favor by the profession; but the success of his mode of treatment could not be disputed, and it was due to the use of a nitrogenous diet. So far as his examinations of the blood were concerned, Dr. Fowler was not able yet to express a definite opinion, but he had examined about five or six hundred specimens of blood of which he had kept records. He had observed one thing, that in marked cases of flatulent dyspepsia there was a large number of colorless blood-corpuscles which were not seen in a state of health. In the healthy person the fibrinous mesh was coarse, while the fibres themselves were fine, but in dyspepsia it was found that the meshes were fine while the fibres were coarse, and there were many of these colorless corpuscles entangled in them. Now, if the fibrin depended upon the liver, and the liver was at fault in dyspepsia, it held to reason that in dyspeptic cases we should find more fibrin in the blood. He gave scraped meat, or the pulp, cooked enough to make it palatable, peptonized milk, and plenty of water, which was the great solvent or means by which to cleanse the system.

Dr. A. A. Smith thought that if a physician of fifty years ago could have been present, he would have thought the discussion on this subject simply amounted to a refined explanation for treating the liver in the manner that he had been accustomed to. It seemed to Dr. Smith that we move in cycles. Dr. Hudson had suggested the same idea. Dr. Smith had been taught fifteen years ago that it was not necessary to pay so much attention to the liver; that it was hardly to be regarded as the cause of original sin, and that it was not necessary to direct treatment to this organ in a routine way, as it had been done for many years, giving every patient a dose of calomel or other cathartic which would act upon the liver. But when he became actively engaged in practice, he found that his teachers had paid too little respect to the liver. His own respect for it was constantly increasing. For instance, even in malarial poisoning he would give a cholagogue—not before giving quinine, but in connection with quinine; and he felt quite sure that such treatment would be of great advantage in digestive complaints, such as had been spoken of this evening. Further, he believed that in many cases of organic disease, whether of the respiratory or circulatory tract, and even in some organic diseases affecting the alimentary canal, we could delay the progress of the disease, or certainly make the patient more comfortable, by resorting to the same kind of treatment. In other words, he wished to put himself entirely in accord with much that had been said regarding the liver. There were cases of anæmia with much derangement of the alimentary canal, but not what is called pernicious anæmia, which were not only not benefited, but which were aggravated by the ordinary treatment with iron, etc. But by persistent, not depressing, treatment directed to the alimentary canal, the use of alkalies, cholagogue cathartics to a moderate degree, and the regulation of the diet, and after two or three weeks, perhaps, the use of ordinary remedies employed in such cases, the patients would recover much more quickly. The same remarks he thought would apply to the disturbances of the nervous system mentioned.

Dr. Dana was inclined to think most too much respect had been paid to the liver during the discussion.

He did not think we cured many of the cases under consideration by simply treating the liver. On the other hand, he thought we could get better results by administering strychnine, almost to the degree of poisoning, or by giving strong tonics, or by using such means as would arouse the tone of the general nervous system. He thought there was a pretty large class of cases in which the liver was not at fault at all. There was a class of cases described by Dickinson as having alkaline urine often, or urine containing earthy salts, which he said were injured as a rule by salines; here Dr. Dana thought the liver had nothing to do with causing the condition.

THE PRESIDENT had seen a number of cases with an inflammatory condition of the respiratory tract, such as referred to by Dr. Draper, there being the indications of the lithæmic state described by the speakers—namely, nervous symptoms, engorgement and torpidity of the liver, etc.; yet he had failed to give them much benefit from the general treatment advised by Dr. Draper, but had found local applications necessary.

GARDEN SLUG EJECTED FROM THE STOMACH.

DR. E. D. HUDSON, JR., presented a limax or ordinary garden slug, and said that, about a year ago, Dr. Stephen W. Roof brought him a fish-like animal or body, with the statement that it had been vomited by a young lady who was a sufferer from dyspepsia. Dr. Hudson was of the impression that it was a distoma crassum, but on showing it to Dr. Johnson, the naturalist, he was assured that it was an ordinary garden slug; and inasmuch as air-breathing animals were supposed not to be able to live in the stomach, they concluded the patient's story was not genuine. But about two months later, one of Dr. Hudson's patients, a lady aged twenty-two, unknown to the other patient, brought him a similar object, which Dr. Johnson also demonstrated to be a garden slug. There could have been no collusion between the two ladies, for they were unknown to each other. The animals were said to be alive when ejected. In the second case there was no garden belonging to the house. His patient was believed to be truthful.

The Society then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL MEN IN PARLIAMENT—MEDICAL MEN AS ORATORS—PERIPHERAL NEURITIS—THE METROPOLITAN SEWAGE QUESTION.

LONDON, December 26, 1885.

THE estimate which I gave in a former letter as to the probable number of medical men in the new House of Commons has, I find, been slightly exceeded now that the election returns are complete. The new Parliament of 670 members contains 16 medical men. Some of these, however, left the profession years ago, others did so on entering the House, and the new medical members will probably soon follow their example. Parliamentary work is incompatible with professional work, and about the only instances I can call to mind of medical men continuing practice, are those of Dr. Lyons, the late Sir D. Corrigan, and the late Dr. O'Leary, all of Dublin.

By dint of rushing to and fro between London and Dublin they managed to retain some consulting practice, but scarcely sufficient, I should suppose, to adequately remunerate them for the expense of keeping up two establishments and the extra work and anxiety they went through. One of the present members, Dr. Farquharson, although retired from practice, has not withdrawn from the fields of medical literature since his entry on political life. As a rule, though, politics extinguishes professional interests. Those medical men who have sat in the House of Commons and made any name for themselves, have done so as politicians and not as medical men or even as sanitary reformers. On sanitary subjects, indeed, the voice of the profession has not been uplifted in the legislature as it ought to have been. But oratory is not a very common gift in our profession, although it certainly numbers several who may fairly claim to possess it. In this line Sir James Paget is *facile princeps* and the other medical baronets compare very unfavorably with him. Dr. Balthazar Foster, the new medical member for Chester, and President of the Council of the British Medical Association, is an excellent speaker. Mr. Brudenell Carter, the well-known ophthalmic surgeon, is as ready with the tongue (and I may add pen) as with his fingers in ophthalmic surgery. Mr. Rivington, of London, and Mr. Sampson Gamgee, of Birmingham, are both eloquent speakers, though they have been heard but seldom of late years. Both, however, were once more to the front last week at the meeting at the College of Surgeons.

In his recent "Harveian Lectures," Dr. Buzzard has recently directed attention to the important subject of paralyses caused by peripheral neuritis. Dr. Buzzard has shown that such cases are frequently by no means so simple as might be supposed. The symptoms are not always uniform and the neuritis may be multiple, thus rendering the problem somewhat complex. It is very important to diagnose such cases from similar paralyses due to central disease, and the prognosis of the former is much more favorable. Syphilis, gout, lead poisoning, alcoholism, diphtheria, and possibly some other of the acute infectious diseases, are enumerated as common causes of multiple peripheral neuritis.

Considerable attention has lately been devoted to the sewage question as affecting the inhabitants of London. The pessimists have had so much the upper hand of late, that I fear such of your readers as see any of our journals have formed somewhat exaggerated notions of the magnitude of the evil from which we suffer. In spite of all that they say, we, who are dwellers in London, have much for which to be thankful in sanitary matters. The system of main drainage is good and the main sewers are fairly well ventilated. Cesspools have been abolished.

Where "bad drains" are complained of, in ninety-nine cases out of every hundred it is the householder's own pipes which are at fault. The low death-rate in London, compared with that of other cities, also points to the general excellence of our system of drainage. This result is, however, unfortunately only obtained at the sacrifice of our river. The Thames is still virtually a vast sewer, but the sewage is not poured into it in its course through London from innumerable drains as was the case twenty years ago, but is carried fourteen miles down the river. The present system of main drainage was commenced twenty years ago and completed ten years ago at a cost of nearly five million pounds sterling. Below the sewage outfalls, the river is very offensive and the dwellers on its banks in that part of its course are said to suffer, though no very definite evidence has yet been adduced on this point. The effect of the tide, also, is felt as high as London Bridge, so *some reflux* of sewage probably occurs. Nevertheless, the condition of the river compares favorably with its state twenty years ago. The chief difficulty in inaugurating any change is the vast bulk of sewage which has to be dealt with. Disinfectants have been lavishly used at the outfalls for several years now, but without any benefit at all proportionate to the sums spent. The latest proposal is to precipitate the solid matter, take it out to sea in barges, and there throw it overboard. Experiments with this method are shortly to be tried on an extensive scale.

THE CONTROLLING FACTOR IN THE DETERMINING CAUSE OF SEX.

To the Editor of The Medical Record.

Sir: Upon reading your editorial review of Mr. Terry's recent work upon "Controlling Sex in Generation," some thoughts occurred to me upon which I would like to receive information. I take it for granted that every physician has patients to whom, if he could impart the secret of "controlling sex," he could remove one stumbling block to domestic felicity—not to dwell upon the fact that there would thereby be born a greater number of that nowadays rare class, "welcome children."

From your article I judge that the work in question claims that the sex is governed by the relative degree of sexual excitement of the parents at the time of congress.

This idea has often been advanced, but, to my mind, not proved, though Mr. Terry seems to have reversed the effect of this greatest sexual excitement, by making the male generate a female instead of his own sex.

There is a degree of probability in the theory that energy will result in a greater effect than listlessness; but how can it be proved that this energy is transmitted to the spermatozoa or ovule, when to all appearances it is expended in the act of liberation of these two elements, spermatozoa and ovule.

Here allow me to suggest that none are so capable of testifying upon this subject as the one hundred and twenty thousand (?) physicians it is claimed that we have in the United States.

Of course, many will object, saying that they do not feel like giving information upon such a "delicate subject." I answer perhaps not. But under the law of compensation, they who all their professional lives are continually seeking "rather delicate" information cannot consistently refuse to contribute to the common stock.

To lead off, I do not think the theory advanced by Mr. Terry will hold, that is, if I may judge by the experience of some of my patients, and it certainly will not in my own family (we have had three children, all males).

Every adult person has speculated upon this question. I have come to the conclusion that it is a mystery; still, that does not stop me from speculating.

After examining all the works to which we have access, including all the human embryos within our reach, we cannot help but be surprised at the advanced stage the embryo attains before we can positively decide upon its sex.

My observations and readings have forced me to the conclusion that the sex depends upon the degree of development, differentiation, or evolution—whichever term suits the case the best—that the animal arrives at; in other words, that sex is merely a degree or phase of development.

To the lower orders we must undoubtedly go for our information. There we find that propagation first begins by division, whether the method by which it is accomplished is by fission, multiplication of the nucleoli, or by budding. Here the sex, if we recognize sex at all, must be termed female. As we ascend higher in the scale we find a sexual differentiation, and that the individual combines the two sexes in the one body. Next we find a separation of the sexes, the male having only a temporary existence, apparently only for the sexual act, and then dies, the female having a more permanent existence.

We can now find the male having a more permanent existence; first arriving at maturity as a separate individual, then permanently uniting with the female during her life, apparently forming a double-headed being, and giving rise to the original belief that it was a double-headed being. I refer to the worm that is the cause of the disease known as the "gapes" in chickens and other feathered creatures.

If we go to the bee for information, we find that the same egg, according to its environment, will develop into a neuter gender, the worker; or a fully developed female, the queen bee; or into a more highly developed being, a male, the drone.

Examine the ovaries of the frog; here we find the ovary develops into a testes, which we know to be the case of the higher animals; but in some females of this animal we can find ovaries which have passed on to the next higher phase of development, and in the same organ can be found ovarian as well as testical tissue; this seems to prove that the testes are a more highly developed, not simply differentiated, tissue.

It may be that the degree of maturity of the spermatozoa determines the sex, the most highly elaborated forming the male, and the less, the female. The degeneracy of the physical powers of an individual should affect the procreative function, and I have for some time regarded the excess of females in a family as indicating the physical degeneracy of that family. It appears to be the case that the more completely domesticated a race of animals become, the greater the ratio of females; their vitality seems to be lessened. The cat tribe is an instance; but I think that the peerage of Great Britain illustrates this perfectly, where the laws of entail and male succession to titles extinguishes the title by reason of lack of males in the family; while I know of no case where there was a lapse of title from lack of female descendants; and though such might be found as an exception only, that of the lack of male heirs is of frequent occurrence.

To return and examine the theory advanced by Mr. Terry. Every physician meets with cases of extremely unexpected and very unfelicitous pregnancies, some occurring during the mid-menstrual period, etc. These all go to confirm the researches of physiology, which teaches us that days can elapse between the date of departure of a spermatozoa and its arrival into port. It is a fact that a long time can pass before the wandering spermatozoa meets with its shipmate, who apparently has been weather-bound in the ovarian and peritoneal seas or the Fallopian gulf. At all events, enough time has intervened for the ardor of both their progenitors to have subsided, therefore leaving them without the impulse of the party having the "greatest sexual excitement;" from which I infer that excitement cannot be the determining cause of sex. Again, how about the sex of a fœtus whose mother conceived while under the paralyzing effects of fear? or while under chloroform, morphine, whiskey, or any partial or complete anæsthetic? Under Mr. Terry's theory the children should be all females, while under the ordinary ideas the children should be all males. But, I ask, are they? and if so, which?

To sum up, the present summit of sexual development seems to be the male, and I believe that the determining cause of sex is the degree of evolution that the being has arrived at. We do find individuals who are farther developed than a female, yet are not complete males. A complete male with ovarian tissue I do not recollect reading of, but I have, of females with a testicle.

At any rate, it is facts we are after, and for the good of our patients, let each physician contribute.

Charles Ambrook, M.D.

Boulder, Col.

A PLEA FOR PERSECUTED LISTERISM.

To the Editor of The Medical Record.

Sir: Professor Tyndall recently wrote: "A great theory has never been accepted without opposition. The theory of gravitation, the theory of undulation, the theory of evolution, the dynamical theory of heat, all had to push their way through conflict to victory. And so it has been with the germ theory of communicable diseases.

Some outlying members of the medical profession dispute it still. . . . Such must always be the course of things as long as men are endowed with different degrees of insight; where the mind of genius discerns the distant truth which it pursues, the mind not so gifted often discerns nothing but the extravagance which it avoids."

The latest attack upon the principles of the germ theory comes from the pen of the distinguished surgeon, Dr. Frank H. Hamilton, in THE RECORD of January 2d, in an article on "The Art of Primary Union, or Union by Adhesion, in Large Incised Wounds." Professor Hamilton enumerates four essential conditions for securing the above result, which may briefly be stated as: 1, Good general health; 2, removal of all foreign bodies; 3, presence of plastic lymph; 4, cleanliness and care in handling wound. In referring later to Lister and his disciples he states: "They omit nothing which in the opening of this paper I declared essential to success."

The advocates of antiseptic methods and their opponents are therefore agreed as to fundamental principles; they only differ in their views of the *modus operandi* of these principles, and it is under condition No. 2 that the difference is most manifest.

The advocates of antiseptic treatment believe that the atmosphere and all dust contain germs, which act as foreign bodies in the wound, and which should be removed and others prevented from gaining access to its interior.

Upon what basis does this belief rest? Pasteur has proved beyond question that fermentation and putrefaction are due to the presence of microscopic plants, and his observations have been confirmed by Tyndall, Burdon-Sanderson, Cohn, and a host of other scientists. In fact, if fermentable and putrescible liquids are deprived of these germs, putrefaction and fermentation do not occur, and the liquids remain unaffected indefinitely. Certain chemicals destroy these germs. Is it not rational to believe that if these germs are allowed free entrance to wounds they establish fermentative and putrefactive changes in the secretions, which produce irritation, and which must result in the formation of pus, and the defeat of condition No. 2? Is it not rational, therefore, to render the wound first *aseptic*, and later *antiseptic*, by the use of chemicals known to produce these results?

Dr. Hamilton also states: "Blood is a foreign body." The advocates of antiseptic methods will hardly accept this statement without some qualification. Is blood in a wound always a foreign body, and, therefore, a source of irritation? Cheyne tells us in his work on "Antiseptic Treatment of Wounds": "There is another mode of healing only seen in the case of wounds where aseptic treatment is thoroughly carried out, or in some rare instances where a crust forms; I mean *healing by organization of blood-clot.*" And he quotes the investigations of Dr. H. Tillmaus, of Leipsic, to substantiate his views. He shows that a blood-clot in a wound may be subjected to mechanical or chemical irritation. Chemical, from external sources, or *by fermentation of the clot.* But fermentation only occurs through the agency of microscopic organisms, therefore it becomes a source of irritation only after allowing the entrance of germs in contact with the clot, which initiate fermentative changes, and it thereby becomes a foreign body. But exclude the germs, and the clot undergoes organization or absorption, and no longer constitutes a foreign body. This is beautifully illustrated in the case of simple and compound fractures. In the first, though blood may be extravasated, it does not act as a foreign body. But let an external wound communicate with the seat of fracture, and every surgeon knows how much more serious the case becomes. Why is the clot of blood so harmless in one case and such a source of irritation in the other? The atmospheric germs are responsible for the difference. In the one case it is organized or absorbed, in the other fermentative changes are induced, which render it a source of irritation, if not of inflammation.

Thus we see that these germs may act locally, causing irritation, and thereby promoting union by first intention. That these same germs may gain entrance into the blood and tissues and induce *systemic* changes, there is little room for doubt. With animals this has been demonstrated. Koch has shown that pyæmia is due to a micrococcus, which, isolated by cultures and introduced into the circulation of a healthy animal, reproduced the original disease. The same has been demonstrated with septicæmia in mice. The result will, no doubt, be analogous with *man*, but opportunities of demonstration by inoculation have so far been too few for solving the problem. Dr. Hamilton asks: "What treatment, either ancient or modern, has furnished a better record than this furnished by Alanson, Syme, Liston, Percy, and Lucas . . . these results were obtained before the introduction of anæsthetics or antiseptics." We are told these surgeons exercised the most rigid cleanliness and gentleness, the section of the soft parts was neat and regular, hemorrhage was carefully controlled, the flaps were accurately coaptated, without drawing or pressing, free drainage was instituted, and perfect rest secured.

Is it not possible that these physicians of the last century often employed antiseptic methods unknowingly?

Cheyne shows there are two prominent methods utilized in the antiseptic treatment of wounds. One, Listerism, or the complete exclusion of all germs from the wound. The other impedes the growth of germs after they have gained entrance to the wound, and this is variously accomplished. Different chemicals may be added to the discharge, rendering it unfavorable for their development, or the secretions may flow away so rapidly that the germs cannot thrive within the wound, or the rapidity may be hastened by flowing water, or by evaporation the fluids may be rendered too concentrated to permit of their growth; or, which seems to apply more particularly to the treatment of the last century, "by keeping the parts at perfect rest, and by operating only when the patient is in good health, the tissues and the blood are in such a state as to resist the development of bacteria in the thin layer of lymph between the cut surfaces, and union by first intention thus occurs. This is best carried out by perfect rest and accurate apposition of the cut surfaces."

Any of these methods are *antiseptic* in the broadest sense of the term. They all tend to impede the growth of germs that have gained entrance to the wound, and only illustrate how well an unknown foe has been contended with. But compared with Listerism, they are rudimentary and imperfect.

A few questions are propounded by the author which I will briefly notice:

"If germs are so easily absorbed by open surfaces and distributed through the system, of what possible use is it to commence the application of antiseptics one or several hours after the reception of a wound?"

Would Dr. Hamilton, if called in a case of poisoning, refuse to give the patient an emetic because some of the poison might have been absorbed by the patient's system? Is it not possible that recovery might take place if the poison remaining in the stomach were removed, and he were prevented from taking more?

Again he asks: "If they only nestle on the surface of the wound, is it not sufficient to apply an antiseptic thoroughly just before closing the wound?" Would it be justifiable for a physician to attend a case of labor with filthy hands, thinking he might syringe all filth away at the conclusion of the labor?

Is there anything irrational in using every precaution in preventing infection?

It is not impossible that Listerism, as now practised, is more complicated than necessary, and in time it may be simplified, and perfected as a system, for it does not claim to be infallible. However, it accomplishes the desired end of excluding all germs more perfectly than any other mode of treatment, and the results are gratifying in the extreme. Any other process which embodies

the same principles is also antiseptic. But we may say, with all confidence, that, so far, no system of treatment, antiseptic or otherwise, has been developed which is not inferior to Listerism. ALFRED C. HAVEN, M.D.

LAKE FOREST, ILL.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 3, 1886, to January 9, 1886.

MCPARLIN, THOMAS A., Colonel and Surgeon. Now awaiting orders in New York City. Ordered for assignment to duty as Medical Director, Department of the Platte, on January 24, 1886. S. O. 5, A. G. O., January 7, 1886.

GODDARD, CHARLES E., Major and Surgeon. Died at Fort Yates, D. T., January 4, 1886.

MUNN, CURTIS E., Captain and Assistant Surgeon. Ordered from Department of the East to the Department of Columbia. S. O. 4, A. G. O., January 6, 1886.

SHANNON, WILLIAM C., Captain and Assistant Surgeon. Ordered from Department of the Platte to Department of the East. S. O. 4, A. G. O., January 6, 1886.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Lyon, Col., and ordered for duty at Fort Leavenworth, Kan. S. O. 1, Department of the Missouri, January 4, 1886.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 9, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
January 9, 1886.....	0	12	61	2	16	106	3	0
Deaths.								
January 9, 1886.....	3	4	13	1	0	5	0	0

COCAINE AS AN EXTRAORDINARY AID IN SURGICAL OPERATIONS.—Dr. Robert Abbe, of this city, writes: "The value of cocaine as an extraordinary aid in the surgical field is daily demonstrated to the wonderment of all, and I take this early opportunity to notice the extremely satisfactory use of it as a local anæsthetic in such operations as the following: Volkman's method for hydrocele—consisting of a long incision through the scrotum and sac, irrigation of its interior, suturing, and draining—which I have recently done on four patients with cocaine. First, October 7th; second, October 9th; and twice on December 29th, the latter being both double hydroceles. The operations were perfectly painless. Amputation of the scrotum, and ligature of the veins for varicocele, I did under cocaine on October 20th last. The patient said he heard me cutting, but felt nothing—even the suturing at the end of a half-hour was not felt. Twice I have used it in bad cases of Dupuytren's contraction of the hand, namely, December 26, 1885, and January 3, 1886, with most admirable results. Finally, growing bolder with experience, I have twice opened the abdomen under its use. First, in a case of intestinal strangulation at the internal inguinal ring. A very small knuckle had been caught, and gave symptoms without external tumor. I did median laparotomy October 5, 1885, after cocaine hypodermics in the line-precincts of the incision. Second, in a lady of sixty-two years, with a ventral hernia existing twenty-seven years, and being uncontrollable and troublesome, I operated for its radical cure under cocaine. It was a troublesome operation, with extensive adhesions within the sac of intestine and omentum. I opened the sac, reduced its contents, stitched its neck, and closed the ventral ring by five heavy catgut sutures. This occupied over an hour, and the cutaneous anæsthesia was diminished so that the final skin-sutures were noticed, though not in any sense painful to her. Even this could have been avoided if I had chosen to give her a second series of hypodermics half-way in the operation, but she rested so comfortably through it that it was not called for. She had no vomiting to disturb the wound, as she would after ether, and primary union, with a nearly normal temperature, has resulted. That was nine days ago. On January 4th I had the pleasure of assisting Dr. Bangs in operating for the radical cure of inguinal hernia, where the cocainization was absolutely perfect during the half-hour occupied in the operation, and the patient rendered invaluable assistance by voluntary management of the sac. I may say that since the adoption of cocaine ether has been used in less than half the operable cases at St. Luke's Hospital, and bids fair to be still further curtailed."

THE LATE PROFESSOR JOHN C. DRAPER, M.D., LL.D.—At a meeting of the faculty of the Medical Department of the University of the City of New York, held December 23, 1885, the following minute was adopted:

Whereas, This institution has been called upon to bear the serious loss of the removal by death of our distinguished colleague, Professor John C. Draper, M.D., LL.D. Therefore, as an expression of our regard for, and appreciation of, his character, be it

Resolved, That Professor John C. Draper's attainments and services as a man of science in both the departments of Chemistry and Physics, wherein he was not only an able teacher, but also an original investigator, rendered his connection with this college of the highest value to its best interests. The unfailing devotion, also, which he showed for its advancement by the faithful labor of years in the lecture-room and in the laboratories of the college has contributed greatly to its usefulness and efficiency as an educational institution.

Resolved, That the services rendered by him for so many years to this college as its Treasurer must signally testify to his excellent executive ability and command of business methods, as well as to his unselfish readiness to work for the common interests of the institution.

Resolved, That the high character and personal qualities of Professor John C. Draper were specially calculated to secure the esteem and warm attachment of his colleagues. As his clear and sound judgment ever was relied upon for counsel, so also did the genial sincerity of his friendship inspire a confidence which grew with years, and which will cause his loss to be deeply felt and long mourned. CHARLES INSLEE PARDEE, Dean.

PHTHIRIASIS PALPEBRARUM.—Dr. James L. Minor, of Memphis, Tenn., writes: "THE MEDICAL RECORD of December 12, 1885, contains an article by Dr. F. W. Ring, of New York, on 'A Case of Phthiriasis Palpebrarum,' which is reported because of the rarity of the affection—rare in the experience of Dr. Ring—rare in the experience of Dr. David Webster, who has 'been looking for a case of pediculi palpebrarum for thirteen years, during which time he has probably treated over fifty thousand patients'—rare in the records of the Manhattan Eye and Ear Hospital, which show a ratio of one to fifty-seven thousand—and rare in ophthalmological literature. Such an experience is, I am sure, exceptional. During the six years of my connection with the New York Eye and Ear Infirmary, and the two years with the Brooklyn Eye and Ear Hospital, I do not recall a year

when one or more cases of pediculi palpebrarum were not observed. And I find, on referring to the reports of these institutions, that my experience is substantiated. The Annual Report of the New York Eye and Ear Infirmary for 1884 gives eight cases of pediculi palpebrarum out of a total of 11,888 eye-patients treated during the year. The Fifteenth Annual Report of the Brooklyn Eye and Ear Hospital gives thirteen cases of pediculi palpebrarum out of a total of 28,816 eye-patients treated at that institution during the fifteen years of its existence. Here we have 40,704 patients, which furnish twenty-one cases of pediculi palpebrarum, or one case of the latter to 1,938 of the former. This proportion is not too great. In fact, I am not sure that it is not smaller than it should be, for it is far from impossible that cases of *pediculi palpebrarum* should be recorded under the head of *blepharitis marginalis*. I could cite two instances where this has been done by competent observers, during the hurried work of a large clinic. I never considered the cases of pediculi ciliaris which came to my notice as of sufficient importance to report, and that this has probably been the experience of others will possibly account for their paucity in medical literature."

The Significance of a Patulous Os.—A correspondent asks us the following question: "Can a virgin or nulliparous married woman have an os uteri sufficiently patulous to admit the tip of the index finger? I have a case of a young woman under my care, twenty-four years of age, strong and healthy, whose occupation for the past eight years was standing at a counter making up packages, and sometimes carrying the same up and down stairs. She consulted me for a slight irritation of cervix. I find the os admits the tip of index finger freely, and the anterior lip is much thicker and harder to the touch than would seem normal, and has a decidedly cartilaginous feel. She admits having masturbated at times some years ago, but denies *in toto* having ever held connections with men, and therefore could not be at any time pregnant. I found the hymen also wanting." [Our correspondent's account of admitting the tip of his finger is too vague to be of any value, and may practically mean nothing whatever. He says nothing about the *depth* to which his digit penetrates. One often feels a cervix in which the conditions seem much as we should judge the cervix was in the case of our correspondent. The whole neck is œdematous, especially the anterior portion, feeling thick, and very much like the "lip." The face of the cervix is flattened, and the finger may seem to be admitted for about a quarter of an inch within the os. The condition described would almost certainly deceive an unpractised finger, and even the experienced touch would require the aid of ocular examination to make a certain diagnosis. Such cases have nearly always acute antiflexion, with more or less enlargement and congestion of the entire organ. Examination by speculum generally reveals evidence, also, in these cases, of a cervical endometritis.—Ed.]

They were Doctors.—The cars on an incoming train were filled to overflowing, and a man who got on at a small station walked their whole length without being able to find more than one vacant seat. This was part of a whole seat upon which a single passenger was stretched at length. After standing for a time by this seat, and observing no inclination on the part of the occupant to share it with him, he indignantly exclaimed: "You are an infernal hog, sir." "You call me a hog, sir?" retorted the other, who was instantly on his feet and in a fighting posture. "I'll knock the top of your idiotic head clear across the country, sir." A fight was imminent, when the conductor opportunely appeared on the scene. "Hold on, doctor, what's the matter?" shouted the ticket-puncher. "Doctor?" queried the man from the small station; "are you a doctor?" "Yes, sir." "Why, so am I." "Good gracious! is that so?" and they exchanged cards and shook hands. "Why, of course you can have half my seat—all of it—the whole car." "Oh, no, no, doctor; I wouldn't disturb you for the world." "But, doctor, I insist." "Well, doctor, if you insist, why I'll be glad to sit with you." "Of course, doctor." And the reporter of the *Free Press*, who witnessed the affair, says the two doctors sat down together in one seat, and were so soft and tender and loving that tears sprung to the eyes of every passenger.—*Medical Age.*

Statistics of Blindness, Deaf-mutism, and Cretinism in Italy.—The Italian census of 1881 shows a considerable decrease in the number of blind and deaf-mutes during the past ten years, while the proportion of idiots has slightly increased. In all three affections the number of males affected was considerably greater than that of females, a disproportion which has been found to exist in other countries also. Of the blind the greatest number was found in Calabria, Sicily, and Sardinia, provinces in which most of the inhabitants have dark eyes. This tends to support G. May in his assertion, that the dark-eyed are more prone to blindness than are those with light eyes. The greatest number of deaf-mutes was found in Lombardy. This province and Piedmont contained the largest proportion of idiots and cretins, so that in Italy, as well as elsewhere, the inhabitants of mountainous regions would seem to be more subject to these afflictions than those of the plains.—*Schmidt's Jahrbücher.*

Physicians' Prescriptions and Druggists' Commissions.—Professor A. M. Wilder, M.D., of San Francisco, Cal., writes: "In the number of The Record of October 31st appears a short article entitled "Physicians' Commissions from Druggists." As the article in question is much more damaging to the good name of the profession than to the druggists, it would seem to call for some notice. That certain of the leading prescription druggists give large percentages on the first filling of prescriptions is undoubtedly true, and that there is a goodly number of the leading physicians who accept and receive these commissions is doubtless true. That this is a dishonest practice, and one that cannot be too strongly condemned, is also true. It is simply neither more or less than a deliberate system of robbery, and the commissions thus paid must come from the pockets of the patients. But this charge does not cover, or apply to, all the physicians of San Francisco. There are some who are satisfied with the one fee from the patients (failing to receive which does not cause them to enter into a league with the druggists to garrote them), and the same holds true of some of our best druggists, who positively refuse to give commissions. The statement that "sixty per cent. of *gross receipts*" is given is absurd; this commission is *only* on the first filling of the prescription, and all druggists know how many prescriptions are filled over and over *without* the knowledge of the physician who wrote them; and, as they have the prescription on file, they control the refilling—another great evil and one that has been pregnant with much harm. As high as 66⅔ per cent. is paid here by one druggist on first prescriptions. Is this evil confined to San Francisco? Does it not hold true in every large city of the country?"

The Diagnosis of Lead Poisoning.—Dr. Dumoulin recently presented to the Royal Academy of Medicine of Belgium a patient suffering from chronic lead poisoning, upon whom he demonstrated a chemical test for this condition. The man's skin became black wherever it was moistened with a solution of sulphide of sodium or of sulphohydrate of ammonia. This, the speaker stated, supported the view of Pereire, that lead was eliminated by the skin, and also offered a more certain means of diagnosis than did the blue line on the gums.

Bread for the Scrofulous.—Senna recommends the use of sea-water in making bread for children suffering from scrofulous affections. After the dough is mixed it should be allowed to stand several hours before baking. The taste is said not to be disagreeable.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 4 NEW YORK, JANUARY 23, 1886 Whole No. 794

Original Articles.

A CONSIDERATION OF THE THOMSEN SYMPTOM-COMPLEX,[1] WITH REFERENCE TO A NEW FORM OF PARALYSIS AGITANS.

BY ALLAN McLANE HAMILTON, M.D.,

OF NEW YORK.

SIR CHARLES BELL, in 1836,[2] under the head of "Affection of the Voluntary Nerves," says: "The most common instance of this is an impediment in speech, when the consent of the muscles is imperfect; but this sometimes extends to all the voluntary muscles of the body. I find that some are capable of lifting a heavy weight, or walking fifteen or twenty miles, and yet they have not the proper command of their limbs; there is an insecurity and want of confidence in the motions of the body, which overtake them upon any excitement; a paralysis of the knees which prevents them from putting one leg before the other, and which endangers their falling. Thus, a gentleman capable of great bodily exertion, on going to hand a lady to the dining-room, will stagger like a drunken man; and in the street any sudden noise or occasion of getting quickly out of the way will cause him to fall down, and in this manner a want of confidence produces a nervous excitement which increases the evil. With confidence, the power of volition acts sufficiently; there is neither defect of speech nor irresolution in the motions of the limbs when the person is at ease or under the flow of spirits."

This is the description of a condition which nearly half a century later was described as a novel disease by a German physician.

In 1876, Dr. Thomsen,[3] the district medical officer of Kappeln, in Schleswig, described a peculiar spasmodic disease of an hereditary character, the victims being members of his own family, and he himself was a sufferer from the malady.

In the year 1866, Leyden,[4] and in 1874 Benedikt,[5] published cases which were undoubtedly of this nature; and later Westphal, Bernhardt, Seeligmüller, Peters, Strumpell; and more lately Schonfeld, Petrone, and Engel have brought forward no less than eight or ten cases. The clinical expressions of the disorder are the following:

1. A sudden spasmodic muscular seizure which attends the performance of a voluntary act.
2. Its subsidence after repetition of the act.
3. An apparent increase in bulk of the several muscles which are chiefly and most frequently the subjects of cramp.
4. An increase in electro-muscular irritability.
5. A normal or slightly excited state of tendinous reflex activity.

These symptoms are often of congenital origin, and progressive as regards intensity. All the voluntary muscles were involved more or less in different cases, but the lower extremities were most often implicated. An attempt to walk was often attended by a sudden flexion of the thigh and leg at an angle of one hundred and twenty degrees, so that the patient presented a peculiar appearance, his body being bent over, and he often fell upon his knees, and when he dropped to the ground he arose with great difficulty. The exercise of volitional efforts seemed only to increase the demoralization. Mental excitement of all kinds made matters worse, and cold aggravated the condition. When the limbs were passively exercised there was resistance and great rigidity.

"If the forearm is rapidly and energetically flexed on the arm, we see the biceps and supinator longus become prominent and hard to the extent that the patient finds it impossible to extend the arm at the moment, the only act possible being one of slow extension which, after a while, finally overcomes the cramp in the flexors" (Petrone).

Vizioli has studied with the dynamograph the action of the voluntary muscles at the time of contraction, at the period of relaxation, and during the continuance of the spasm. When the patient was told to close his fully-open hand, it was at least five seconds before the movement followed. When the fingers were semi-flexed, and the patient was told to entirely close the hand, it was found that the contraction was immediately produced without any volitional retardation.

This contraction was attended by a dynamographic line composed of very marked and numerous oscillations.

It required sometimes five, and even ten seconds for the patient to open his hand after it had been closed a certain time. In this movement the relaxation of the flexors was not marked by a line nearly straight in its descent, but by an oblique line with many oscillations.

The muscles supplied by the cerebral nerves were not exempt. The masseters stiffened, and the patient would stop when eating, his mouth remaining open, he being quite unable to close it. Some patients talked "stiffly," and in Schöenfeld's case the speech was slow and drawling. Some of the patients were unable to open or close their eyes.

Tickling of the palms of the hands, or soles of the feet, would result in flexion of the joint above. In only one case (that of Schöenfeld) were the reflexes exaggerated.

The only American case of Thomsen's disease was reported by Dr. Hugo Engel,[1] of Philadelphia, the patient being a young man seventeen years old, whose symptoms followed a severe fright. Besides the characteristic paresis and rigidity, and the paresis and hypertrophy, there was an increase in the deep reflexes and the appearance of paradoxical contractions, such as Westphal has described.

There seems, in many cases, to be a wide difference not only in the origin of the disease, but in the symptoms associated with the peculiar muscular condition of which I have spoken. In Italy, Vizioli[2] and Ferrari have reported hybrid cases and adult examples like those of Bernhardt, whose patient was a vigorous soldier twenty-two years of age, and Seeligmüller, whose reported case was also an adult male, go to show that a congenital history is by no means the rule.

While there seems to have been a great regularity in the appearance of the symptoms in the several cases already

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[1] *Synonyms:* Muskelsteifigkeit und Muskelhypertrophie; rigidité musculaire avec impuissance de la volonté; rigidité et hypertrophie musculaire; myotomie congénitale; paralysie spinale hypertrophique; spasme des muscles de la volonté.

[2] The Nervous System of the Human Body, by Sir Charles Bell, third ed., 1836, p. 436.

[3] Berliner klinische Wochenschrift, March 12, 1883.

[4] Klinik der Rückenmarks-Krankheiten, 1874.

[5] Nervenpathologie und Electrotherapie, 1874, vol. i.

[1] Philadelphia Medical Times, September 3, 1883. p. 849.

[2] Referred to by Petrone in Sperimentale, July, 1884.

reported, it must be confessed by those who are at all familiar with the clinical features of many progressive diseases of the nervous system (especially those of spinal origin) that this very trouble which Westphal regards as an anomaly of muscular tonus, is not only an occasional but very frequent symptom of a variety of maladies. In most cases it is purely a psychic disorder which depends first upon inhibitory insufficiency, and secondly, upon an unstable emotional state which interferes with the *origin* of proper volitional mandates. It is an occasional symptom of the third stage of locomotor ataxy, is common in hystero-organic disorders of the nervous system, and is by no means uncommonly associated with coarse cerebral lesions. I therefore do not feel like dignifying this symptom-group, in spite of the fact that it existed in a somewhat definite collection in several members of Thomsen's family.

The cases reported by Thomsen and others show, as a rule, that the appearance of the spasmodic condition is an early one—in this respect resembling pseudo-hypertrophic paralysis. In June, 1885, I saw a boy ten years of age, in whom there was no history of hereditary nervous disease, who presented a condition which in some respects resembled pseudo-hypertrophic paralysis, but like a case reported by Vigoroux, was not. The parents had always noticed some difficulty in the child's movements, and especially a tendency to rigidity. This trouble has increased so that he now walks with the greatest difficulty. He is weakly and looks mentally feeble, and the cranial vault is noticeably low. He is pot-bellied and badly nourished, but there seems to be no special muscular atrophy. The muscles of both calves are hard and enlarged, as are the posterior muscles of the thigh, those of the left perhaps being most noticeably affected. An examination of portions removed failed to show any fatty substitution or increase, and the electrical reactions were normal. An attempt at walking is manifested by spastic and irregular progression, the feet being rigidly forced to the ground, the ball of the foot first coming in contact. The toes are flexed. There is no adduction of the knees such as attends the tetanoid paraplegia of Erb. The child advances in what may be called a squatting position, the knees being flexed so that the legs are beneath the thighs and the body is bent forward. The feet are separated, but there is none of the waddling so peculiar to pseudo-hypertrophic paralysis. After walking in this way for some time, the rigidity, which was very great in the beginning, diminished sensibly, and he did better. The father told me that the patient's arms occasionally became rigid. This child has poor control over the functions of his bladder, but the action of his bowels is unimpaired. His tendinous-reflex activity is apparently lowered. His pupils are both dilated, the left perhaps more than the right. His legs are occasionally slightly anæsthetic for a few minutes. There are times when there is little or no embarrassment in walking, but as a rule his cramps are severe and prompt in their appearance, and are always aggravated when he is worried.

A second case is that of a boy nine years old, in whom the development of the spastic symptoms followed a primary stage of head pain, attacks of vomiting which were cerebral, and some disposition to somnolence. About six weeks before I saw him he suffered an apparent and general loss of power of a higher grade in the upper, and then the lower, extremities, which seemed to be of a volitional character. His inability to move his left arm seemed greatest. When he made any effort the leg or arm became rigid; and when seated and told to raise his foot from the ground his leg became cramped and strongly flexed, so that the middle of the calf was pressed against the chair seat. Attempts at passive extension reveal strong muscular contraction of the flexors. When he is told to use his arm, for the purpose of taking hold of some object, it becomes rigidly flexed. Sometimes when, of his own accord, he makes an effort and the cramp occurs, he will bite his other hand, and it would appear that this vicarious expenditure of nervous energy mitigates the exaggerated muscular activity, for it seems to help him. Within six months he has gained flesh. The muscles of the lower extremities are abnormally developed, and there seems to be a general increase in volume without fat. The rotulian tendon-reflex is, perhaps, slightly increased. He passes his urine frequently, and there seems to be some vesical spasm.

A peculiarity of the case is a certain prominence of both eyes, and something which resembles a lateral nystagmus. His mouth is slightly drawn to the left side, while the tongue points to the right. There appears to be no abnormal electrical reactions. In this case, which presents the loss of power, cramp, and muscular enlargement, there appear to be associated symptoms of complex cerebral disease.

The spasmodic phenomena seem to be associated with conditions of normal or even lowered reflex tendinous activity. In several cases of posterior spinal sclerosis I have seen the same thing, and these are examples:

Mr. G——, well-defined history of syphilis; early history of lightning pains (1881), especially in legs and about arms; sciatic pains; early ocular symptoms; some anæsthesia, especially of right sole, which began one year ago, a feeling as if there was an extra layer of stocking between sole and boot; analgesia and anæsthesia, especially of three outer toes of right foot; patellar tendinous reflex extinct in both legs. When he commences to move in the morning there is great rigidity of lower extremities and sometimes painful flexion of knee-joint. Is for a time utterly helpless, and has fallen repeatedly. His legs, when the seat of cramp, become so rigid and unmanageable that his walk is like that of a marionette. Persistence usually results in an ability to walk naturally.

FIG. 1.—Characteristic Attitude of Patient with Paralysis Agitans. (Strümpell.)

I will now present a case in which this peculiar condition existed in connection with other more familiar symptoms, the patient's malady in many respects resembling Parkinson's disease or paralysis agitans. In at least two cases of the disease of which I am cognizant this element existed. In these cases the trembling was inconsiderable and limited, but the other symptoms, viz., festination, the attitude, the facies, and the piping voice were highly characteristic. The first case is one of my own, the second is reported by Buzzard[1], and they closely resemble each other, and I think we are justified in considering *two* forms of paralysis agitans.[2]

Strümpell[3] also says that he has seen cases of paralysis agitans in which there was little or no tremor, but rather marked muscular stiffening (Muskelssteifigkeit).

Some months ago a gentleman fifty-three years old was brought to me for advice and treatment. His family history was good—his father and mother were free from nervous trouble, but certain relatives of the mother were the victims of mental disease. When a child he had had

[1] Clinical Lectures on Diseases of the Nervous System.

[2] I leave out of the question insulated sclerosis, multiple or disseminated sclerosis, with which Parkinson's disease is often confounded.

[3] Lehrbuch der Speciellen Pathologie und Therapie der inneren Krankheiten, etc., 11 Band, 1 Th., p. 401.

some cerebral trouble of a hydrocephalic nature. He had always been an active, busy man, supporting a large family and acting in the employ of a large firm, where he managed an important department. About five years ago he noticed a pain in the right ulnar nerve, and especially a dull tenderness over the exposed portion at the elbow. One year after this the pain reached the shoulder, and radiated over the back of the scapula and

[FIG. 2.—Mr. X ——. Natural Position when Relaxed.]

downward, and he complained not only of pain at several points over the latter, but in the two outer fingers of the right hand as well. His attention became concentrated upon his right arm to such an extent that, after unsuccessful recourse to liniments and ointments, he kept absolutely quiet, made but few voluntary movements, and was constantly upon the alert to avoid jarring the arm. He really thought of little else, became emotional and hypochondriacal, and gave up his business. He sat constantly in a large chair, and could not arise without the help of some member of his family, though his legs were not paralyzed, contractured, or useless, except in the fact that when he tried to arise they became suddenly and rigidly flexed. The slightest assistance would enable him to arise without the production of spastic rigidity, and this consisted simply in the light touch of a hand, the help being rather an encouragement of confidence than any aid in the way of force.

He presents the appearance of a person suffering from paralysis agitans (see Fig. 2), the condition of general flexion being very marked, the body bowed over, and the chin sunk upon the breast. His face wears the characteristic blank expression. There is little or no festination. His sensibility is good, he has control over his bladder, but he is habitually constipated. Tendinous reflexes normal, cutaneous reflex rather too active, producing peculiar phenomenon to which allusion will subsequently be made. There is a very slight inconstant tremor of the right hand, but this disappears entirely at times, and is not aggravated by efforts at self-control.

The most interesting and peculiar feature of the case is the curious spastic irritability, and its relation to the exercise of will. This is almost universal, but most marked in the knee-joints. At times he walks without effort, at others he cannot stand, because of a sudden immovability and rigidity of the knee-joints, and a general spasm of all the flexor muscles of the thighs and legs, so that he crouches when he attempts to stand (Fig. 3), or falls upon his knees. All attempts upon his part to overcome this are attended by an increase of the helplessness. When he sits with crossed legs he is occasionally seized with a cramp of great violence, and he cries piteously for some one to disengage the limbs. If his arms or legs become the seat of spasm during the performance of some voluntary act, they may retain the position, however awkward, until the attention is distracted. The attempts of bystanders only serve at times to aggravate the rigidity. When his leg is forcibly extended when in the rigid position of extreme flexion, it returns immediately to the original position, suggesting the "penknife" contraction of Westphal. Some time after the particular act is persisted in, its accomplishment occasionally becomes easy, but when startled or worried he seems panic-stricken and utterly helpless.

There is no trouble about swallowing or eating, as a rule, but, occasionally, like some of the reported cases of "Thomsen's disease," he at times cannot shut his mouth. It is occasionally impossible to get him to use his ocular muscles, so that his eyeballs remain immovably fixed, and upon one occasion no amount of persuasion could induce him to change their position.

There seems to be, besides this state of things, a very interesting alteration of the emotions. He has fits of temper when he declares the "devil has possession of him," when he utterly refuses to help himself, and insists upon the entire attention of every member of the family who may be present. Tickling of the plantar surface of either

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[FIG. 3.—Mr. X——. Spasm attending Attempt to Walk.]

foot would cause a rigid contraction at the knee-joint. Under the stimulus of excitement or diversion he does not suffer so much. Within half an hour after an attack of complete demoralization, I have seen him kick up his heels and throw about his arms without any trouble or stiffening, and this was done by command of his attendant. Shortly after he relapsed into the old state, declaring his inability to take off his clothes or get into bed, and when no assistance was given he remained in a cramped, uncomfortable position in the middle of the floor for some time. His intellect was unusually clear, and his memory

good. There was not the least suspicion of cerebral softening in this case.

The posterior muscles of the thigh were hard and seemingly slightly enlarged. They responded to electrical stimulation. Moral treatment did some good, and for a time, through the establishment of an improved condition of volitional energy, the patient was enabled to perform acts which had, before treatment, been impossible. The tendency to spasm could not be very greatly reduced, however, and at last accounts there was no substantial improvement.

In Engel's case there was a peculiar symptom to which he is, I think erroneously, inclined to attach little importance. . . . "I noted" (said he), "while inspecting the undressed patient before me, a certain slowness in every action of his, even in his speech and in the lifting of the eyelids, as also in the play of his features; but even these signs have a doubtful importance when we remember that they are often noted in young men of his class." This same slowness was a feature of the case of Mr. X——, as well as of the case reported by Buzzard, and it indicates the abouloimic nature of the trouble.

A NEW OPERATION FOR THE ALLEVIATION OF PERSISTENT DEAFNESS.

By WILLIAM H. BATES, M.D.,

NEW YORK.

MANY cases of deafness are not benefited by thorough catarrhal treatment, inflation of the middle ear, the use of Siegle's otoscope, an artificial opening in the drum-membrane, division of the tensor tympani, etc. I desire to call the attention of the profession to an operation which has benefited a number of these obstinate cases.

The operation consisted in puncturing or incising the drum-membrane in from five to ten different places. Simple punctures were made, or the drum-membrane was slit in various directions. The operation was repeated as soon as the openings in the drum-membrane had healed. The size and freedom of the incisions must be determined after the first operation for each case.

For the operation I employed a Graefe cataract-knife with a long shank. It is important that the knife be *sharp*, and to make this certain I often used a freshly sharpened knife for each puncture. Pain was avoided by this precaution. A dull knife, or the paracentesis instruments sold in the shops, caused more pain than the patients could bear.

Cocaine was not necessary when the knife-blade was in proper condition, and this remedy would not prevent pain when the knife was dull.

The result of this operation is to leave a number of cicatrices in the drum-membrane; the subsequent contraction of these producing a tension by which the membrane is drawn out. The membrane frees itself from adhesions in this manner, and in many cases loosens the anchylosed ossicles. The various benefits of paracentesis, as formerly employed, are not only obtained but much increased. It is not an improvement the result of a perforation of the drummembrane alone, which, as is well known, is often doubtful and transitory, but the subsequent healing of the openings is part of an improving process. The operation, suggested by that of paracentesis, differs from it in the simultaneous number and extent of the incisions, as well as in the purpose for which it is resorted to, and in the immediate and subsequent results.

CASE I.—J. M——, aged fourteen, resident of Boston, presented himself at my office, July 8, 1885. Deaf in right ear since childhood. Has had measles, scarlet fever, and cerebro-spinal meningitis. Has been seen and treated by specialists in Boston. Examination: Drum-membrane depressed, thickened, congested, adherent to the promontory from chronic catarrh of the middle ear, Eustachian tubes congested. Hearing distance for snapping of finger-nails, two inches. Hears no conversation, whisper, or watch. Inflated readily. Hearing distance not improved by inflation.

July 18th.—Thorough treatment of the catarrh with inflation of the middle ear had improved the hearing distance at the outset, but this limited improvement was again lost. In view of the etiology of the ear trouble, and still further from the unsatisfactory result of the routine treatment, and the apparent hopelessness of these cases, even in hands more skilled than mine, I was much discouraged. I then determined to make a paracentesis, but one more general than usual.

July 19th.—I made three incisions in the drum-membrane.

July 20th.—My patient heard better; and on examining the drum-membrane I found my punctures healed, and, while the membrane seemed less congested, it also appeared a little less depressed. With nothing to lose, and perhaps something to gain, I now made bold to make six free incisions into the membrane, hoping for a possible continuation of the improvement. These incisions healed over as rapidly as before; and, on the succeeding days, each day found the hearing improved, with an apparent diminishing depression in the membrane. It now occurred to me that the wounds in healing seemed to draw upon the membrane, and that the cicatrices were acting as elevators.

On July 25th, the membrane having healed, I made a single, but very large incision into the drum, and then proposed to await developments. Daily the hearing improved, until, on August 10th, I found the drum-membrane was healed. Examination revealed that the hearing distance for the watch in the right ear had risen to 18 inches (the same for the left ear), which under favorable surroundings was ten feet.

The patient was seen and kindly examined by Dr. Pomeroy, who recognized the hearing distance for watch at 18 inches. The patient remained under observation until August 16th; improvement had remained and increased. He now returned to his home out of town.

January 13, 1886.—A written communication of this date informed me that the improvement has persisted.

CASE II.—N. L. J——, male, aged thirty, merchant, native of United States, came under observation at the time that I had met my first encouragement in Case I.

July 21st.—Began treatment. Complained of noises in both ears, and of constant vertigo. Examination revealed no hearing in left ear. In right ear heard snapping of finger-nails at 2 inches. Drum-membranes depressed, thickened, congested, and adherent to the promontory. Made four free incisions in both drums.

Treatment repeated six times, and on August 9th he passed from observation. On this date the tinnitus was much improved, the vertigo had disappeared. Hearing distance in both ears for snapping of finger nails, 6 inches.

Two months later the improvement was reported as continuing.

CASE III.—C. H——, German, aged thirty-four; very nervous man. Complained of noises in both ears. Examined and found to be suffering from chronic catarrh of the middle ear.

October 15th.—Heard watch in right ear, two and one-half inches; nine inches in left ear.

October 16th.—One incision in right drum-membrane.

October 17th.—One incision in right drum-membrane.

October 21st.—No better. Incisions were made in both drum-membranes.

October 29th.—Noise in left ear had stopped entirely. Incision in right drum-membrane.

December 4th.—Noises in right ear a little better. Five incisions were made in the right drum-membrane.

January 11th, 1886.—Incision made in the right drum-membrane.

January 14th.—Three incisions were made in the right drum-membrane.

January 15th.—The noises in the left ear have not returned. The noises in the right ear are very much bet-

ter, and have stopped occasionally. The hearing is better for conversation. Patient appears less nervous.

The succeeding case presents some features of unusual interest. It was in the person of a *deaf-mute*, who seemed intelligent.

CASE IV.—B. R——, female, aged seventeen; had scarlatina and measles in early infancy, was never able to speak, but appeared observing and intelligent. Is a fairly developed girl. Has been treated three months at one of our public institutions by a most competent specialist without result. Examination revealed chronic catarrh of the middle ear. The drum-membrane was depressed, thickened, congested, adherent to the promontory.

October 3, 1885.—Began treatment. Hearing distance for the snapping of finger-nails four inches for the right ear, one inch for the left ear. Conversation not heard.

October 4th.—Five incisions were made in both drums.

October 6th.—Both drum-membranes healed. Hearing distance improved.

October 7th.—Four incisions in the right drum-membrane, two incisions in the left.

October 8th.—Hears better.

October 9th.—Three incisions in the right drum-membrane.

October 12th.—One incision in the right drum-membrane. Left drum-membrane not healed.

October 14th.—One incision in the right drum-membrane.

October 15th.—Left drum-membrane healed; incised.

October 17th.—Two incisions in the right drum-membrane.

October 19th.—One incision in the right drum-membrane.

October 20th.—Left drum-membrane incised. Hearing lowered immediately after the operation.

October 22d.—Hears snapping of finger-nails two inches with both ears.

October 29th.—Hears snapping of finger-nails six inches with both ears. Five incisions were made in the left drum-membrane; hearing reduced to two inches.

November 1st.—Right drum-membrane healed. Left drum-membrane open. Hears nails with right ear twenty inches; five inches with left ear. Inflation did not improve.

November 26th.—Hears watch half an inch with both ears.

December 7th.—Three incisions were made in the left drum-membrane.

January 6, 1886.—Three incisions made in the right drum-membrane.

January 11th.—Five incisions were made in the left drum-membrane.

January 13th.—Hears watch at least six inches with both ears. Hears conversation and whisper. Since hearing was restored it became necessary to teach patient language, and she is now, under careful tutelage of her guardian, learning the rudiments of speech, her own name, the names of common objects, etc., etc.

With as yet a limited experience and the comparative brief time which has elapsed since I have first performed this operation, its full scope and range has not yet been determined.

That I have benefited some apparently incurable cases, I can, with becoming modesty, honestly contend. In the light of the classical treatment of chronic cases and its frequent failure, this innovation, which has given results as unexpected and satisfactory to me as to the patients, may be fairly presented for future endorsement. To Dr. O. D. Pomeroy I extend most sincere thanks for kind corroboration as to the hearing of some of the above cases. In conclusion, I beg to state that all of the cases have been seen and examined by observers besides myself.

THE PRESENT ABUSE AND FUTURE USE OF DISINFECTING AGENTS.

BY J. R. DUGGAN, M.D., PH.D.,

BALTIMORE, MD.

To differ with the present and to attempt to foretell the future is probably as unhappy a combination as one could well take upon himself. It would make it appear that one was both behind and ahead of the times, either of which is objectionable in scientific matters. There is, however, in almost every field of research, a transition stage that is so mixed up in doubt and "a little learning" that it is less desirable than either that which went before or that which follows after. I do not mean to imply that our knowledge of disinfection is in this stage, but it is not very far from it. No one acquainted with the amount of careful, patient work that has been done in this field would willingly say anything that would detract from its value, and such is not the object of this paper. It is rather an attempt to show that in our eagerness to accept and apply the facts as developed we have overrun the line that marks the boundary between fact and speculation. The usual argument for this is, that it is better to keep on the safe side, but it is not a safe side when one accepts a method based on doubtful theories, and feeling secure in this, neglects other conditions of more certain value. The public have been even less conservative than the profession in matters pertaining to disinfectants, so that their manufacture has become an important part of the great patent-medicine industry. The only difference is that physicians do not hesitate to use and recommend nostrums of this class.

I am satisfied that it is not an overestimate to say that three-fourths of all disinfectants sold to individuals are for use in houses where there is no contagious disease, and in most cases no disease of any kind. What, then, is the object of all this? In the first place, it is to destroy or prevent odors due to lack of cleanliness; and, in the second, to obtain a prophylactic against disease. Occasionally the first of these reasons is a good one, for circumstances may justify it for a time; but when such is the case, it should be remembered that one is simply taking the lesser of two evils, both of which should be done away with as soon as possible, and cleanliness substituted. Under this class of "substitutes for cleanliness" may be included the various water-closet disinfecting machines. Aside from being totally inefficient, so far as destroying organisms is concerned, the fact that they are necessary to prevent odors is the best evidence that the closet or water-supply is not what it should be. If we take away the odor simply, in such cases, there is nothing left to remind us of impending danger.

Unless we could disinfect the air we breathe, and everything we come in contact with, the employment of these agents as prophylactics must be considered as entirely useless. This, of course, does not include their use, as mentioned above, to prevent putrefaction where cleanliness cannot be had, or on material that has been exposed to infectious disease. When we consider the use to which disinfectants are usually put, perhaps it does not matter much that various waste products and useless mother-liquors from manufactories are sold under this name.

When we come to those diseases which are known or thought to be caused by bacteria, there are uses for disinfectants concerning which there can be little or no doubt. For example, the discharges of patients in such cases should by all means be submitted to some effective agent, and such an excess should be used as would leave no doubt concerning its action. Although it is not my intention to treat of individual substances in this article, I think that calcium, or sodium hypochlorite, or concentrated mineral acids, are the only perfectly safe agents when dealing with discharges containing albuminous matter, since complete disintegration of the mass is necessary.

For bedding and clothing, ordinary washing, using boiling water, is all that could be desired. While it would be unsafe to say that nothing is gained by disinfecting the walls, furniture, and other objects in a room not in immediate contact with the patient, there is very little evidence in its favor; and it should never be allowed to take the place of isolation and other precautions. Good ventilation is, undoubtedly, the best means of removing organisms from the atmosphere of a room, and probably, also, from surfaces on which they have been deposited. So little is known, in fact, on this subject of transmission of diseases that any attempt to control it must be based on but little more than guess-work.

While many will consider these views as behind the times, it might be well to wait and see if they are not rather behind the fashion. What is needed is more attention to the sources from which we derive our air, food, and water, instead of attempts to purify them after they have become contaminated; and the hope of the future is not in disinfectants, but in better sanitation.

Aside from these facts, the germicidal and antiseptic value of various substances has not been determined with the accuracy that many seem to think. These values must always remain very far from absolute, and the most that can be said is that they hold under certain conditions which are usually very different from those we have to deal with outside of the laboratory. They are in many cases not even comparatively correct. This is not said to cast discredit on such work, but it simply shows that we know almost nothing about the influence of the various conditions under which our experiments are made. In order that it may not appear that I am alone in finding experiments of this kind unsatisfactory, the following table from the well-known investigations of Palon de la Croix is given. The first column gives the proportion of the substance required to prevent the development of bacteria in fresh meat-juice exposed to the air, while the second column gives the results obtained under exactly similar conditions, except that the culture-fluid had been heated to boiling before the antiseptic was added.

Chloride of lime	1 : 3148	1 : 286
Sulphurous acid	1 : 8515	1 : 12649
Potassium permanganate	1 : 2005	1 : 300
Sodium borate	1 : 30	1 : 107

It is evident from this that what would usually be considered a slight change in the culture-fluid not only affects results very greatly, but that it may in one case increase the amount of antiseptic required, and in another diminish it. If we drew our conclusions from experiments made on unboiled meat-juice they would be that the relative value of chloride of lime and borax was about as 100 : 1; but when boiled meat-juice is used, this proportion is changed to about 3 : 1.

What is needed is not an increase in the already enormous number of such determinations, but thorough chemical investigation of the changes that take place when these agents are brought into solution with the various substances present in organic liquids. Progress in this direction must be slow, but it will well repay the labor. Something is already being done in this line by studying the effect of antiseptics on the soluble ferments, where their action is very similar, if not identical to what it is on the organized. For example, I have recently found that salicylic acid, which has usually been supposed to act as a protoplasmic poison, will act on diastase, and even on starch, converting it into sugar, in the same proportion that it prevents the development of bacteria, provided the same conditions, as regards the culture-fluid, are present. Chittenden has also shown that mercuric chloride, and other metallic salts, act in about the same proportion on organized and unorganized ferments. I do not think it possible to find any substance that will prevent the growth of bacteria, and not interfere with the action of the soluble ferments; and if this is true, there is no possibility of administering an agent that will disinfect the alimentary canal, and at the same time prove harmless to the patient, since not only digestion, but most probably many other life-processes, are carried on by means of soluble ferments.

I am not familiar enough with the use of antiseptics in surgery to express any decided opinions as to their value; but for reasons already given it must be considered as very doubtful, except in cases of infectious disease. They at least do good by promoting cleanliness, but this is in part counterbalanced by the harm that sometimes follows the use of poisonous or irritating agents.

In conclusion, it might be well to remember that it has been shown that bacteria do far more good than harm, and it is very probable that we could not live without them, so that in trying so diligently to destroy our enemies we may sometimes include our friends among them.

Johns Hopkins University,
January, 1886.

A PIECE OF IRIS LIVING IN THE VITREOUS CHAMBER—A NOVEL FOREIGN BODY.

By JULIAN J. CHISOLM, M.D.,

Professor of Eye and Ear Diseases in the University of Maryland, and Surgeon-in-Chief of the Presbyterian Ear and Eye Charity Hospital of Baltimore, MD.

G. T. S——, aged fifty-nine, in falling from a height, six months since, received an injury to the right eye. When seen by his family physician, seven hours after the accident, he was suffering intensely, the lids having become very much swollen. Upon carefully separating them a wound was discovered at the upper edge of the cornea, from which protruded a thick splinter of wood. The removal of the piece of wood was accompanied by a bloody, watery discharge from the eyeball, leaving, however, so much clotted blood in the anterior chamber as to conceal the amount of injury done to the eye contents. The treatment pursued was cold applications to the eye, the local use of atropia, and the internal administration of anodynes. As the swelling subsided and the blood-pus absorbed, it was found that sight had been reduced in this eye to light perception only. In time, however, the vision commenced to improve, till after three months large near objects could be again recognized. In the meantime the left good eye indicated some growing impairment of vision, both for distant and near objects, and the spectacles heretofore worn with comfort no longer permitted easy reading. This growing defect in the vision of the good eye was supposed to be a sign of sympathetic complications, and for this reason the patient had been sent to me from his distant home for surgical treatment.

I found the good eye hyperopic $V=\frac{15}{16}$. With a $+\frac{1}{20}$ lens his distant vision became $\frac{15}{15}$, even above the normal. With a $+\frac{1}{8}$ he could readily read brilliant type. His spectacles were $+1\frac{1}{2}$, four numbers too weak for him, hence his recent annoyance in reading.

At first sight his injured eye presented every appearance of a successful cataract extraction. The iridectomy was large, well-shaped, and centrally located, with clean walls back to the very ciliary border. This well-formed artificial pupil was black, with traces of capsular deposit as seen after successful cataract extractions. He could detect large objects and count fingers readily at some distance from the eye. In putting a $+\frac{1}{3}$ lens before his injured eye I was surprised to find $V=\frac{15}{70}$ and with a $\frac{1}{2}$ $+\frac{1}{8}$ glass he could make out words in brilliant type.

He complained of something moving about in his eye, which seemed to wave before his sight. By oblique illumination I could see a whitish body in the vitreous chamber. An ophthalmoscopic examination showed a healthy fundus and clear vitreous, so as to give a perfect retinal picture. Hanging from the roof of the vitreous chamber, at some little distance behind the thin partial capsular film, was a flap of membrane, apparently

one line wide and two lines in length. It was rectangular in shape, and of a yellowish-white color. Upon its surface could be clearly traced a vessel of some size, starting from the adherent base of the flap and running downward through the whole length of the hanging mass to its very free extremity. This piece of living tissue moved to and fro with corresponding movements of the eyeball.

This floating membrane in the vitreous, adhering to the upper and anterior edge of the choroid, could be nothing else but the missing piece of iris. The splinter of wood in entering the eye-ball through the upper scleral border of the cornea, had pushed a piece cleanly out of the iris, from pupillary opening to ciliary border. This detached piece of iris, still holding on to a broad base, had been pushed back into the vitreous chamber through the suspensory ligament of the lens, having its ciliary body connection partially stripped from its ciliary ligament at this point and thrust back with it. The lens must have been injured also at the time of the accident, because through the torn capsule the aqueous had first caused clouding of lens-substance with loss of vision, and afterward restoration of some sight by its slow but complete disappearance by absorption. As there was a broad base to the flap, with ample nourishing blood-vessels, the piece of displaced iris had continued to live. Although it had been bleached so that all traces of its normal pigment had disappeared from it, yet it was still thick enough to show no translucency. Under ophthalmoscopic examination it stood out boldly as a whitish-yellow membrane against the healthy red choroidal background. Curiously enough, the passage made by the splinter into the vitreous chamber had not been invaded by inflammatory deposits. The hyaloid structures had not become the seat of pathological changes, and therefore excellent vision had been retained to the injured eye.

TWO CASES OF CONGENITAL TORTICOLLIS, WITH REMARKS.

By B. E. HADRA, M.D.,

AUSTIN, TEX.

In October last, when I was living in San Antonio, by a strange coincidence two German mothers (farmers' wives) from the very same settlement, near Austin, consulted me about their babies.

1. Selma W——, a female child, six weeks of age, had a tumor of the size of a small walnut in the middle of the sternal portion of the right sterno-cleido-mastoideus, while the muscle itself was very tense and contracted. The tumor was detected about three weeks previously. The patient was the sixth child of the healthy mother; the birth was easy, without any assistance; head presentation.

2. Helena P——, ten weeks old, a girl, with an identical deformity on the same side, but the tumor larger and more elongated. This girl is also the sixth child of a healthy mother; was born in breech presentation, but without any active assistance. The abnormality was noticed about two weeks after birth, and only accidentally, as happened also in the first case.

These cases were obviously cases of torticollis, and both were operated on by subcutaneous myotomy of the sternal portion, just above the tumors. It was impossible to cut through the muscles in one attempt, so extraordinarily firm were the tissues. The tenotome had to be carried forward and backward several times. Still, I was not perfectly satisfied that I had made a thorough division. Taking, then, into consideration that a cutaneous wound, under antiseptic precautions, could not be of more harm than further subcutaneous manœuvres, and prompted beside by the desire to remove the tumors, in accordance with the wishes of the mothers, I decided to make a cutaneous section, which was done next day with the kind assistance of Drs. Cupples and Kingsley.

In both cases the cut surfaces of the divided muscles presented the appearance of dense cicatricial tissue, the tumors being only enlarged parts of the evenly degenerated muscles, forming nodes in the continuity. There was not a trace of old blood-clots, or any discoloration of the neighboring parts. The muscles in both cases were well divided by the previous myotomies, still some fibres of the sheaths were holding the parts at certain points. The tumors, or rather the thickened portions, were removed from the lower ends of the divided muscles, the wounds closed and dressed antiseptically. The children did very well, No. 1 making a recovery per primam, No. 2 having a slight discharge from a little spot which did not heal till two weeks afterward. Both scars are linear and hardly visible. The heads now occupy a normal position, the divided sternal portions are hardly to be detected, while the other portions are more slender than on the opposite side.

The excised parts proved to be throughout fibrous callus, and show under the microscope not a trace of muscular tissue.

Beyond noting the strange coincidence of these cases, both being brought in at the very same time, and from the same settlement, and both being females, each affected on the right side, I would like to say a few words in regard to some points connected with this form of torticollis.

1. In regard to etiology, nearly all authors accept a congenital, or better expressed, a fœtal origin of the contraction. Still, Gross states in his work on surgery: "It has been said to be occasionally congenital, and cases of this description are, no doubt, now and then met with, but they must be extremely rare, none having ever fallen under my observation." Now my cases hardly admit of any other explanation. The tumors are explained in Billroth's "Surgery" (Fischer on "Diseases of the Neck"), following Strohmayer, as "cicatrices in consequence of lacerations of the muscles *during* labor." The ruptures are said to be followed by extravasation of blood, which afterward becomes organized, and Skrzeczka is quoted as having found old blood in three cases within the muscular sheaths. Dolbeau, on the other hand, is quoted as having observed a fœtal inflammation of the sterno-cleido-mastoid muscle. The cases reported herewith possess, then, some clinical value, as the anatomical structure of the tumors and their relation to the muscles were investigated during life. Dolbeau's views are thus confirmed. The children were only a few weeks old when the swellings were first noticed, and only two weeks older when operated upon. If Strohmayer's explanation was correct, some signs of a traumatism should have been found, but, what seems to be of more weight, is that the fibrous degeneration was limited to the point of rupture, and had not extended over the whole length of the sternal portion. Moreover, it is hard to believe that such a solid cicatrix could form in so short a time. The possibility of a traumatism is in my two cases excluded; there was no midwife present, and no manipulations were indulged in. Thus it seems to me that such cases are congenital, and due either to fœtal inflammation, probably caused by traumatism in utero (twisting, etc.), to a want of development of the muscular tissue, or to a heterotopy of fibrous tissue. I will not attempt to decide which is the most probable. Neither will I deny that there may be cases, as reported by Strohmayer and others, of traumatism during labor.

2. Why the right side is predilected, and why, also, the female sex is the favorite, I am at a loss to explain.

3. If the deformity of a congenital torticollis from contraction of the sterno-cleido-mastoid muscles is due to a fibrous degeneration, no orthopædy, no emollient treatment, no massage, etc., will be of any benefit. There is no muscular tissue present and none will form. Of course, I do not speak of torticollis from other causes (rheumatism, spinal malformation, etc.).

4. There is, then, only one treatment, and it is that

recommended by our best authorities, viz., myotomy. The tumors may disappear spontaneously by atrophy without an operation—as it appears from the writings of some surgeons—but the contraction will nevertheless grow worse, if left alone.

5. The question whether subcutaneous or percutaneous operation is preferable, is the last point I wish to make. The subcutaneous operation, it is true, is more elegant and leaves immediately after its performance a smaller external disfiguration. In regard to danger, I see no advantage over the other. Even not taking into consideration the possible injury to the neighboring vessels, it is just as safe to cut down, provided antiseptic measures are taken, as to puncture, and to leave behind a quantity of extravasated blood. In cases in which the surgeon is obliged to withdraw the tenotome and to insert it again, to be sure of having thoroughly divided it, the subcutaneous operation seems to be even more dangerous. The relation of the subcutaneous operation to the percutaneous one is about as aspiration is to incision. But the latter has the following advantages: The certainty of having divided every particle of the muscular band; the ability to remove any adventitious matter that it may be advisable to remove; the avoidance of injury to the many nerves situated on and above the muscles; the facility, finally, of cleansing the wound well and of using perfect antisepsis.

COMPOUND GUNSHOT FRACTURE OF RADIUS FROM WINCHESTER RIFLE, TREATED BY PRIMARY ANTISEPTIC OCCLUSION,

Without Removal of the Primary Dressings until the Case had Resolved Itself into a Simple Fracture with Superficial Ulcerations—With Remarks.

By HENRY I. RAYMOND, A.M., M.D.,

ASSISTANT SURGEON UNITED STATES ARMY.

George D——, aged seventeen, a half-breed, was shot through the right forearm by a cartridge of 44 calibre, accidentally discharged from a Winchester rifle which fell from his saddle while his horse was attempting to escape from a hornet's nest.

The lad was forty miles distant from surgical aid, and had to ride twenty-six hours (day and night) over a rough mountain trail, and in the hot summer season (thermometer 93° in the shade), to receive professional care of his wounds. Two large colored kerchiefs saturated with clotted blood had served the double purpose of a provisional hæmostatic and an occlusive covering. On removing these (twenty-six hours subsequent to the injury) an ugly-looking wound of exit—such as would be produced through the diminished velocity of a projectile from fracture of the shaft of the radius—was observable, with pouting lips and torn edges. This wound of exit was two and a half by one and three-fourths inch, extending in the line of the thumb from half an inch above the wrist upward along the radial shaft. The wound of entrance, comparatively insignificant, was situated in the line of the little finger three inches above the wrist. By very gentle manipulation bony crepitus was obtained at the site of injury, and by cautious pronation and supination of the hand no rotation of the head of the radius took place.

The *exterior* of the wounds was cleansed in a bichloride solution, and after drying the surfaces they were dusted over with a powder of iodoform and calomel, and covered with borated cotton and oakum. An anterior and posterior splint were applied with the forearm in semi-supination, and the whole secured by adhesive straps and roller-bandages.

The temperature per orem marked 100.2° F.; pulse, 85; respiration, 20.

Considering the ugly aspect of the wound, associated with a compound fracture and of twenty-six hours' standing, it was with some hesitancy that I put to a further test my faith in the efficacy of a primary occlusion, but relying upon the pulse and temperature to signal approaching danger, I occluded the wound, seeking to render the fracture "subcutaneous."

To open up the secretions a purgative dose of blue mass and jalap was administered. Let it be remarked here that this was the only dose of medicine in any form—hypnotic, febrifuge, or pain-killer—that was administered in any shape or manner during the continuance of the case (no indication therefor existing), and the diet was not specially restricted, except that meat was interdicted. The accident of birth was not in his favor, inasmuch as the Indians and half-breeds on this Hoopa Reservation and in the adjoining valleys are scourged with struma, phthisis, and syphilis; hence, whatever of good resulted in the healing process may in my opinion be justly accredited to the exclusion of infecting germs, and the placing of the wound in a condition favorable for repair.

The patient was kept in bed for three days, until it should be determined, from the absence of high temperature, that the wound had not been unsuited for occlusion. He was then permitted to go about the ward and into the outdoor air. On the tenth day from the date of application of the wound-dressings they were removed for the first time, the entrance and exit of the wound-track were dressed as simple ulcers, and the fracture-splints reapplied.

Two days later the patient returned to his home, a distance of thirty miles, by muleback, and made me visits at intervals of about two weeks until, the fracture being consolidated, the splints were removed. The pronation and supination movements of the radius were well preserved, they being executed through three-fourths arc of a semicircle.

Permit me a few lines that are elicited by a criticism which, by some oversight, only to-day met my eye, by your correspondent of October 3d, relating to my article on gunshot wounds in your issue of September 12th.

The above case occurred in my practice while preparing my article of September 12th, and I have related it to show the further practical workings of the occlusive method. I trust my critic, on second thought, will not think me so dogmatic as to recommend or practise "but *one* line of treatment of gunshot wounds." What I wish specially to emphasize is this: That the chief interrogatory to be proposed to one's self, and answered according to the surgeon's best judgment, before proceeding further in a case of gunshot wound, of whatever character, is whether or not the given wound is suitable for occlusion. If it be suitable, and the surgeon, by unclean hands or meddlesome interference, renders it noxious and past occlusion, that surgeon has diminished the chance of his patient's recovery and increased the probabilities of untoward wound accidents. In the case above related, I ask if, in the simplicity of treatment, in the care of the wound, in the shortness of time, or in the securing of beneficial results, any other method would have yielded a better return than primary occlusion? How often would the application of this method in suitable cases do excellent service for the country practitioner, whose busy hours and long drives do not permit him the frequent inspections possible to the city practitioner, should he treat a gunshot wound openly! Primary occlusion takes precedence in every case to which it is applicable. In such a case there is, to my mind, no choice of methods. The occlusive here is the best. In so far, I confess I am somewhat dogmatic. But to assert that no discrimination is to be made in the proper selection of cases for occlusion is farthest from my purpose, and I trust my critic will not impute it to me. I agree with him "that certain wounds require one treatment, while other wounds require other treatment, . . . and this is where a good surgeon is expected to use his judgment, and not merely an antiseptic rag." But, I ask,

upon what is he to base his judgment, unless it is upon certain sound principles of surgical practice which I have endeavored to indicate in my article of September 12th? namely, "If the wound is not a fresh and clean one; if the canal has not been shut off from the external world by shifting of the soft parts immediately that the injury took place; or if the wound-track, that has been virtually occluded from the start, is laid open now for the first time by the surgeon's examining finger; or if of necessity the surgeon must go into the wound for the purpose of ligating a bleeding vessel, or of removing some palpable object of infection, *let no such wound be occluded.*" "Insure it a radical disinfection and subsequent complete drainage." On the other hand, if a wound is a fresh and clean one, and virtually occluded when it comes into the hands of the surgeon, let it not become infected and rendered unfit for occlusion through contamination, but let it be immediately shut in from hurtful extraneous influences by a clean (non-septic, antiseptic) occlusive covering, whether it be a simple blood-clot, scab, clean charpie, or an "antiseptic (clean) rag."

An attack was recently made against my advocacy, in a paper read before a county medical society, of occlusion to clean non-infected gunshot wounds, by a surgeon who had served through the Rebellion. In antipode to occlusion, he had known surgeons during the Rebellion to invite maggots to infest their wounds, and those wounds did best that were most strongly beleaguered. I *had not* advocated occlusion in infected wounds, and in such only do maggots abound. Though necessary evils, they may have served a good purpose in infected wounds; as scavengers they were angels in disguise. Better a filthy city with scavengers; but better still a clean one that needs no scavenging. Better close up a clean, non-infected gunshot wound than to infect it, and then invite scavengers; better invite scavengers than close up one already infected.

As to laparotomy in abdominal wounds, and especially in intestinal wounds, I do not see that my critic takes any issue with my paper, but cites the practice of Dr. *Bull*, as I also did. The innocuousness of a pint of bloody serum in the abdominal cavity is not so apparent to me, "though, when spread out, would make very little show," inasmuch as the *quality* and not the quantity of a fluid determines its septicity, and the labors of Sims in this direction, as recorded in the British medical journals, are not lightly to be set aside.

Regarding gunshot wounds in general, my attention was recently directed, by Assistant-Surgeon J. O. Skinner, to the remarks of Goodwin in the *British Medical Journal*, February 23, 1884, and to the fact that the German surgeons seem to appreciate the surgical situation very well when they refer to their wounds as "fingered" and "unfingered," and to the very apt remarks of Otis, the surgical historian of the Rebellion, in his reference to the practice of "hermetic sealing," or other innovation of surgical practice—that "an invention, or innovation, is first received with incredulity and unfair criticism, and if these fail of their purpose, then the originality or development of the discovery is questioned."

FORT GASTON, CALIFORNIA.

JUBILEE OF THE FINNISH MEDICAL SOCIETY.—The Medical Society of Finland recently celebrated its fiftieth birthday by a reunion in Helsingfors. The proceedings of the society at this meeting have been published in two large volumes, entitled "Skrifter utgifua af Finska Läkaresällskapet vid dess Femtioaars Fest." The first volume contains an interesting history of the society, written by Dr. Otto E. A. Hjelt, together with a list of the members. Dr. Rosina Heikel enjoys the distinction of being the only female member of the Läkaresällskap. The second volume contains a number of papers presented at the meeting by Drs. Saltzman, Homén, Heinricius, Engström, Holsti, Saelan, Fagerlund, Lindén, and Tigerstedt.

Clinical Department

A NEW METHOD FOR THE REMOVAL OF FOREIGN BODIES FROM THE NOSE.

DR. D. BRYSON DELAVAN, of New York, sends us the following: "The presence of a foreign body in the nasal cavity is usually attended with marked swelling of the neighboring mucous membrane. Its extraction by any of the means in common use is accompanied with pain, often of great severity, and is often followed by copious hemorrhage. The swelling offers, of course, a serious obstacle to the extrusion of a hard body, while one which has increased in size from the imbibition of water becomes all the more firmly impacted. Hence, in attempting the removal of the body, more or less laceration of the membrane is likely to occur. The pain, with difficulty tolerated by an adult, causes a child to become in almost every instance unmanageable, so that an anæsthetic is required. The hemorrhage is usually controllable after the lapse of a few minutes, but may, meanwhile, cause considerable annoyance. From our knowledge of the physiological action of cocaine upon the nasal mucous membrane, it is evident that, by its use in these cases, all of the above difficulties may be overcome; for applied to the nose, the mucous membrane becomes strongly retracted, the sensibility to pain lost, and the blood-vessels exsanguinated. Thus, the calibre of the fossa is greatly widened, the irritation and consequent resistance done away with, hemorrhage prevented, and the removal of the foreign body thereby greatly facilitated. To carry out the method, the occluded nostril should first be cleansed with a spray or a gentle current of some lukewarm alkaline solution, after which a four per cent. solution of cocaine should be applied to the mucous membrane. When its effect has become complete, the extrusion of the body should be attempted by directing the patient to blow forcibly through the affected nostril. Failing in this, it should be drawn out by some suitable instrument. Should the patient be too restless to make this practicable, an anæsthetic may still be administered. In cases of invasion of the frontal sinus or antrum of Highmore by insects or larvæ, cocaine should be applied to the membrane before the administration of chloroform or ether, in order that the canals leading to these cavities may become as patent as possible, and thus the vapor of the anæsthetic be admitted very thoroughly to the intruder's presence. The insensitiveness of the membrane produced by the cocaine will, in these cases, certainly add to the comfort of the sufferer should it be necessary to inject, or still better, to spray the nose with chloroform."

SYMPTOMS RESULTING FROM SWALLOWING A CATERPILLAR.

DR. GEORGE M. WATERS, of Columbus, O., writes: "On November 10th I was called to prescribe for a child seven months old. From the parents I learned that the patient had been in good health previous to 2 P.M., and at that time awoke from a sound sleep with a scream and appeared to be choking. Nothing could be found in the throat to account for these peculiar actions, but considerable redness was noticed about the fauces. At 8 P.M. I found the throat intensely inflamed, a slight elevation of temperature, pulse feeble and rapid, and the patient very restless. The following morning the throat inflammation had subsided, but the temperature had reached 102° F., there were symptoms of intense gastric distress, and the face, body and upper extremities were covered with an eruption resembling a severe case of urticaria. Bismuth and oil were ordered with a mild opiate. On the morning of November 12th, the eruption, with exceptional spots, had disappeared, the temperature had fallen to 99.5°, and there were no indications of pain. The pa-

tient was much better, and well it might be, for with the first free stool was passed the body of a caterpillar an inch and a half long, and larger than the common lead pencil; the hair had been completely stripped from the body, which was complete and covered with mucus. With the two following stools came the brown hair of the caterpillar. This was followed by an inflammatory diarrhœa for three days, when the child began to improve rapidly and is now in good health."

SUPRA-PUBIC ASPIRATION FOR RETENTION OF URINE.

Dr. W. McChesney, of Wauconda, Ill., reports the case of a man, aged sixty-seven, who suffered from stricture, the result of a gonorrhœa contracted some twenty years ago. On attempting to pass water on the evening of June 5th, he was unable to do so, and, getting no relief in the morning, sent for the writer. Repeated efforts were made to pass Nos. 6, 8, and 10 gum catheter, but without success; examination per rectum revealed the presence of a greatly enlarged prostate. Before proceeding to puncture, which operation was considered inevitable, the writer called in consultation Dr. Galloway, of Libertyville, who suggested the administration of chloroform and another attempt at catheterization before puncturing. This was tried without success and the bladder was then punctured above the pubes with a small trocar, about three pints of dark-colored urine being removed.

The canula was retained in position by means of threads attached to strips of adhesive-plaster. "I considered this preferable to repeated tapping with the trocar, as I could see no prospect, immediate at least, for the relief of the retention through the urethra. During the next two weeks the bladder was washed out twice daily with a solution of Squibb's boric acid, two drachms to the pint. This sufficed to keep the organ in a healthy condition, as far as could be judged by the appearance of the urine. I attempted to pass a catheter every other day, but found it impossible to do so. In the meantime the opening into the bladder occupied by the canula had enlarged sufficiently to allow of the introduction of a small drainage-tube, which greatly facilitated the process of irrigation.

"Acting upon the advice of Dr. Muffas, of Wheeling, who saw the patient with me, I now gave large doses of potassium iodide, but as the drug was not tolerated by the stomach it was soon discontinued. After repeated trials of the catheter, with every variety of curve, I discharged my patient. I saw him last week and he is as well as usual. Irrigation with the boric acid solution every other day keeps the urine clear."

THE USE OF COCAINE IN AMPUTATIONS.

Dr. Valentine Mott, of 27 East Twenty-fourth Street, reports the following cases of amputations of the finger in which cocaine was used as a local anæsthetic. They were performed by Prof. Alexander B. Mott, at Bellevue Hospital Medical College, on Wednesday, December 23d. The first case was one of osteosarcoma of the proximal phalanx of the little finger. The patient, John S——, aged twenty-eight, had first noticed the growth about three months ago; it had increased very rapidly, so that at the present time it measured five inches around its largest part. Amputation was decided upon. The patient wished to take ether or chloroform, but the heart was found upon examination to be in such a bad state that it would have been foolhardy to have run the risk. Having administered cocaine in a number of cases of operations for tumor with great success, the writer determined to try its effects in this instance, should the patient be willing. Consent having been obtained, the hand was bandaged tightly at the wrist so as to stop the circulation, and six hypodermics of a four per cent. solution of muriate of cocaine were made along the proposed line of incision and one deep down into the joint. About fifty-five minims were used in all. After waiting ten minutes the bandage was removed and the finger was amputated at the metacarpo phalangeal articulation. The patient said that he *felt absolutely* no pain. The ligation of the blood-vessels, all of which were very much enlarged, took some little time, but during the entire period no complaint was made.

In the second case, which was one of necrosis of the proximal phalanx of the middle finger, the success was not so great, owing in a great measure to the fact that no bandage was applied to arrest the circulation in the part. The patient, Jane G——, married, aged twenty-three, was of exceedingly nervous and excitable temperament. Injections were made as before along the proposed line of incision around the metacarpo-phalangeal joint. No struggles were made by the patient while the finger was being removed, although she said that "it hurt," but upon being questioned afterward, admitted that it did not pain her as much as the introduction of the hypodermic needle, and that the soreness half an hour after the operation was greater than the pain experienced during its performance. In this case about forty minims of the solution were administered. Dr. Mott writes: "In using the muriate of cocaine in similar operations in the future I shall most assuredly apply an Esmarch's bandage, so as to limit the action of the cocaine to the part that is to be operated on; and I have no doubt that, by pursuing this plan and injecting the solution not only hypodermically but deep down onto the sensory nerves themselves, far more formidable amputations could be accomplished with almost absolute painlessness."

HYPODERMIC INJECTIONS OF COLD WATER IN SCIATICA.

Dr. D. H. Lewis, of Lone Pine, Pa., writes that he was consulted by a man sixty years of age, who was suffering greatly from sciatica. He had been treated for the past eight weeks by two physicians, and had run through the entire list of anti-neuralgic remedies. Being desirous of trying something which was at least new to the patient, Dr. Lewis determined to employ hypodermic medication, and, having no drug handy which he cared to use, he filled the syringe with cold water and injected the fluid deep down behind the trochanter. The following day the patient returned and said that he was feeling much better. The injections were accordingly repeated every third or fourth day for a period of three weeks, by the end of which time a complete cure was obtained. The writer has since treated a number of cases of sciatica in the same way, with equally gratifying results. He thinks that possibly many of those cases which have been reported as cured by the injection of certain drugs, such as cocaine, might have terminated in an equally favorable manner had simply cold water been used.

Inoculation with Snake-poison.—It is stated on the authority of Rev. Charles Bixby, a native of the country, that preventive inoculation of snake-poison has been practised in Surinam, Dutch Guiana, for centuries. A snake is caught and teased until the glands secreting the poison are hyperæmic and actively secreting. The reptile is then killed and the glands extracted, dried, and pulverized. The inoculation is practised, usually at the wrist, by causing an abrasion of the skin into which some of the powder is rubbed. It is said that those thus inoculated may suffer themselves to be bitten by the snakes with impunity, for no one who had been properly inoculated was ever known to die or even suffer any ill effects from a snake-bite. This is an item which has been going the rounds of the lay journals, and we by no means wish to vouch for its accuracy.

Progress of Medical Science.

TREATMENT OF PRURITUS ANI.—The following mode of treatment of this troublesome affection is recommended in the *Lyon Médical*. After a small enema of warm water, the patient inserts within the anus a tampon of cotton soaked in a mixture of carbolic acid and laudanum, each one part; dilute hydrocyanic acid, ten parts; glycerine, fifteen parts, and distilled water, one hundred and eighty parts. This application is to be renewed from time to time until the pruritus has ceased.

POISONING BY CAMPHOR.—In *The Australian Medical Journal*, October 15, 1885, Dr. J. P. Ryan reports the following case: On the afternoon of September 15th, Miss X—— was brought to his house in a cab, and had to be partly lifted and partly supported indoors. Her hair and dress were disordered, her face duskily suffused and perspiring, the breathing slow, shallow, and with a tendency to sighing, and her pulse was rapid, small, and compressible. Her breath smelt of camphor. She was in a semi-unconscious state, with her eyes partly closed, and if placed in the sitting posture her head and body inclined to fall forward and to the side; but if roused and spoken to loudly, she made an attempt to sit upright, lifted her eyelids for a moment, smiled in a lackadaisical sort of way, and responded rationally, but in the unformed halting accents of a person laboring under the influence of drink. She was above the middle height, strongly built, and her sister, who accompanied her, informed him that she was unusually robust and healthy. They had lunched together at one o'clock on coffee and bread and butter, and afterward were doing some shopping. She had a slight cold, for which she had been recommended to try camphor. She had provided herself with a piece as big as an almond, which she began to chew up and swallow in minute portions. Some twenty minutes afterward she suddenly complained to her sister of feeling giddy and queer, and they had barely time to get into a shop which they were passing when she fell down in a quasi-fainting fit. Resort was had to the usual restoratives—fanning, cold water, smelling-salts, etc.—and after a little she rallied somewhat, but began to talk excitedly, and endeavored to sing or hum snatches of tunes, paying but little heed to the conversation and efforts of those around her. Her face was flushed, the expression peculiar, and her sister said that only she knew that she never drank any wine or spirits, and that they had been together all the forenoon, she would have come to the conclusion that she was under the influence of drink. As the hilarious excitability was gradually passing into a state of stupor, the sister became alarmed, and had her conveyed to his house. She began eating the camphor at two o'clock; twenty minutes or so afterward she had a quasi-fainting attack, followed by hilarity, excitability, with rapidly ensuing stupor, and when he saw her, about three o'clock, she was nearly unconscious, and in a semi-collapsed state. As her condition was somewhat alarming, he lost no time in giving her an emetic dose, twenty grains of zinc sulphate, which was followed by free vomiting; the vomited matter smelt strongly of camphor, but he failed to find any pieces of the drug in it. After waiting for fifteen minutes, he gave her thirty minims of aromatic spirit of ammonia in a small cup of strong black coffee. Her breathing and circulation improved, her face, from being flushed and dusky had become somewhat pale, the expression being more natural, and she gradually sank into a light slumber. Half an hour afterward he administered another dose of coffee and ammonia, and by four o'clock she was sufficiently recovered to be removed to her own home. She was somewhat light-headed and giddy, but only complained of a burning pain at the pit of the stomach, which had disappeared by the next day. The above case is of interest on account of the severe, if not alarming, symptoms produced by an apparently small dose of camphor. Miss X—— could scarcely have taken more than twenty grains, for her sister, a most intelligent woman, assured Dr. Ryan that the piece was no larger than an ordinary almond. If we bear in mind the slight solubility of camphor in water, it may be fairly assumed that a considerable proportion of this was expelled from the stomach in the vomited matters. Now it follows, if this be granted, that dangerous symptoms of poisoning were produced in a healthy adult woman by a quantity not exceeding the ordinary doses of camphor as given in the principal text-books of Materia Medica.

SPONTANEOUS OR INFECTIOUS MYELITIS.—Dr. Ratimoff related to the Russian Medical Society the case of a railway employee who was taken, after a long walk, with chills and severe pains in the left leg. On admission to the Alexander Hospital the leg was seen to be swollen, the skin was tense and œdematous, and the patient had a high fever with delirium. A superficial incision having given no relief, the tibia was trephined and gave exit to a small amount of pus. After this operation the pain diminished and the temperature fell. But the following day the wrist became painful and an abscess formed. The same thing occurred in the shoulder and at other points, and the man finally succumbed from diarrhœa and prostration. Dr. Ratimoff also reported a second case, occurring in a boy fourteen years old, who was suddenly seized with chills followed by a high fever. The right leg was found to be swollen, and the knee-joint contained fluid. In spite of cold applications, rest, and mercurial ointment, the tumefaction increased and the high temperature continued. The bone was then trephined, a large opening being made to facilitate the exit of pus. The pain at once ceased, the temperature fell, and at the end of two weeks the patient was cured.—*Revista de Medicina y Cirurgia Practicas*, December 7, 1885.

THE ASCITES OF ABDOMINAL TUMORS.—The Paris correspondent of the *Medical Times*, November 28, 1885, writes that Professor Terrillon, in the course of some practical remarks on the above subject, said that ascites may be produced in three different conditions: the circulation may be embarrassed locally, as in some varieties of hepatic cirrhosis, or indirectly, as in heart troubles; or the peritoneum itself may be inflamed or irritated, as when associated with abdominal tumors. In the last few years points of differential diagnosis have been elucidated. If the ascites be from obstructed circulation, the liquid will be a limpid fluid, resembling water, perhaps slightly colored, containing a little albumen, but no fibrin, and giving no sediment, containing rarely a few red globules, more often a few small white globules. If the ascites be from peritoneal inflammation, the liquid will be thinner, but never transparent, always cloudy, looking like buttermilk, and smelling like decayed cheese. There is a great deal of albumen in this liquid, and of red cells and large white globules, and it deposits a thick sediment. If the effusion be from simple serous irritation, the liquid will be albuminous, rather clear, and often colored like bile. In the sediment will be found elements of great importance. Besides large white globules full of fatty granulations, large irregular cells may be seen, having a central nucleus surrounded by a quantity of granulations. The presence of these cells is usually taken as the sign of a malignant growth being present. Besides these differential characters, M. Méhu has shown that these liquids do not give the same weight of residue. Twenty per thousand is the rate in the first kind, and forty in the second; in that accompanying ovarian cysts the figure goes up to seventy-five or eighty. One word more on the examination of the liquid: we should not at once conclude on some form of cancer if blood be in it, for we often find it in the simplest forms of irritation. Ascites rarely accompanies simple ovarian tumors. On the other hand, it is very

frequent in external papillomata which irritate the peritoneum. It is also almost always found with malignant tumors, such as sarcoma and cancer of the ovaries, intestines, etc. As a general rule, it may be said that there is no connection between the volume of a tumor and the quantity of the ascites. The books tell of the usual symptoms by which we recognize ascites—the large belly, the sensation of wave-motion from side to side, etc. There are, however, two modes of diagnosis that are not much written about: first, always look for a marked dulness in the lumbar region; second, the vaginal cul-de-sac affords a good chance to detect fluid by a vaginal or rectal examination. This is, indeed, the only way to decide the diagnosis between the ascites and an ovarian cyst. Having detected the ascites, we ask what is the cause of it? There are only three ways to find out. First, examine the abdomen; then puncture, and examine the fluid; finally, make an exploratory incision. If the patient have a great deal of liquid and a small tumor, the physical examination will not reveal much. If there be only a little liquid, there are a few signs that may help; but they are not very sure. Sometimes it is possible to depress the abdominal walls and reach the tumor; there may be a real *ballottement;* and, finally, we may by vaginal examination place the tumor in communication with the abdominal walls, so that we can feel it. These means are not many nor very efficient. In making a puncture with the aspirator, we observe three rules: first, antisepsis of the strictest kind for the trocar and the skin of the patient; second, open the abdomen in the median line, to prevent wounding any large vessel; third, the depth to which the instrument is passed must not be great.

Paralysis Following Tonsillitis.—M. Prevost reports in the *Archives Médicales Belges* for November, 1885, the case of a young army officer whom he was called upon to treat for a sore throat. He was found to have a severe inflammation of the tonsils, accompanied with considerable swelling of the soft palate and neighboring parts, but without any false membrane. Under active treatment the affection subsided in about ten days, but a week or two later paralysis of the right upper extremity appeared. There was no fever, no digestive disturbance; the patient slept well and felt well, and there were no symptoms of cardiac or respiratory trouble. The pupils were regular and responsive to light, no headache was complained of, nor were there any other symptoms of spinal or cerebral disease. After a short period the power returned in the affected arm without the employment of electricity. Dr. Prevost believes that the paralysis was a result of the tonsillitis, and places his case in the category of paresis following simple angina, several instances of which have been collected by Gübler.

Iodoform in Gonorrhœa.—Dr. Oger, in discussing the use of iodoform in gonorrhœa (*Journal de Médicine de Paris*), refers to its employment in solution with glycerine by M. Campana in acute and chronic conditions of the disease. The best results are attained, however, when it is applied to the diseased parts in a very fine powder. In this form Timmermans has obtained excellent results. Iodoform being insoluble in water, he suspends, in two and a half ounces of water, sixty grains of the drug, rendered impalpable by previous solution in sulphuric ether. The mixture being well shaken, a small glass syringe is filled and injection practised. As it is important that the iodoform come in direct contact with the inflamed mucous membrane, the urethra should be thoroughly cleansed by urination immediately before the injection is made. The patient should lie on his back, and the injection be made in a direction nearly vertical, gravity thus causing the powder to seek the lower part of the syringe, and thus favoring its introduction into the urethra when pressure is made upon the piston. When the syringe has been emptied, it should be gently withdrawn, and while the meatus is compressed by one hand, with the other careful pressure is made, so that every part of the passage is reached by the fluid, and the iodoform thus deposited upon the mucous membrane. After four or five minutes the fluid is permitted to escape gradually, in order to avoid the ejection of the iodoform. The operation should be repeated at least three times a day. Whatever is the stage of the disease a prompt result is certain, as is shown by diminution of pain—the iodoform evidently acting as an anæsthetic to the inflamed parts. The character of the pus is also changed, and its abundance diminished. Cure is promptly obtained; in one case resulting in five days.

Intestinal Giddiness.—The existence of this variety of giddiness has long been known to us from the occurrence of that form of it associated with, or caused by, the presence of worms in the intestinal tract. Leube has, however, for many years back noticed another form of it, dependent on flatulent distention and relieved by passage of flatus, and several cases which he has recently observed tend to throw some light on the subject (*Deutsches Archiv für klin. Medicin*). In these, three in number, the giddiness was associated with chronic constipation and relieved by free motion of the bowels or passage of flatus, with the sitting posture aggravated by the act of defecation and relieved by standing or walking, and lastly with intestinal catarrah and flatulence; and in all of them he found on examination *per rectum* that the feelings of giddiness were greatly intensified either by the introduction of the finger into, or its withdrawal from, the rectum. He concludes, therefore, that giddiness in patients suffering from intestinal affections has its source in a diseased condition of the intestinal walls, the sensation being due to pressure on the hemorrhoidal plexus of the sympathetic nerve, but in what way brought about remains yet to be seen.

Baths in the Treatment of Cerebral Rheumatism.—The following are the conclusions formulated by Dr. H. Dupré in a recent thesis on this subject (*Revue Médicale*, December 26, 1885): 1. Hydrotherapy ought to be employed in cases of cerebral rheumatism with hyperpyrexia and delirium, whether the articular symptoms be present or not. 2. The condition of the pulse and temperature, and the nervous symptoms, are the indications to be followed in deciding upon this plan of treatment. 3. In presence of such great danger any temporizing method is inadmissible. 4. Baths are to be preferred to any other plan of treatment. 5. In subacute cerebral rheumatism baths of a temperature of 63° to 75° F. should be used. 6. In the acute form a temperature of 85° to 90° F. is preferable, and this may afterward be reduced, if deemed desirable, by adding cold water. 7. This method is often successful, but it should not be considered as certain, for there are cases in which it occasionally fails. 8. There are no absolute contra-indications to the use of baths, though, of course, the method is not without its dangers; it may give rise to congestions of various kinds, syncope, pleurisy, and the like.

Manifestations of Inherited Syphilis on the Ear.—The two most characteristic lesions of the ear caused by inherited syphilis are, according to Dr. Hermet (*Annales de Derm. et de Syph.*, No. 3, 1885), 1, purulent inflammation of the middle ear, leading to the same local consequences as ordinary inflammation of the same parts, but differing from it in being painless; 2, a form of deafness which is very intense in degree, very sudden in its onset, and in which no appreciable lesion of the conducting apparatus may be discoverable. In a case of this latter kind which is related, deafness was said to have developed in four days, when the patient was nine years old. Dr. Hermet remarks that deafness so sudden and intense could only be due to one of three causes, namely, hysteria, tabes, or inherited syphilis. Hysterical deafness comes on in adolescence or adult life, and its chief feature is its curability. The deafness of tabes is equally

sudden as in the case of syphilis, and attains at least as high a degree of intensity. In the present case, however, the age of the child was against tabes; and at the age of twenty-five, when she was seen by Dr. Hermet, there were no signs of tabes. The diagnosis of inherited syphilis was arrived at chiefly by the history of abortions and early deaths of other children, which was furnished by the patient's mother, who also affirmed that her first husband had spots on the penis at the time of her marriage, and that her second husband told her he had had syphilis in earlier life. The only satisfactory evidence of syphilis in the patient herself was the deafness, which was accompanied by an apparently healthy condition of the conducting parts of the ear. From this case Dr. Hermet draws two conclusions: 1, That in some cases an inherited syphilitic diathesis may be revealed by examination of the auditory apparatus alone; 2, that late inherited syphilis may manifest itself solely by disorder of hearing characterized by complete and absolute deafness of very sudden onset, with integrity of the conducting apparatus. The exact cause of this kind of deafness is not yet known; but it appears to be due to neuritis of the auditory nerve. The affections of the ear mentioned above were the only two which had been observed by Dr. Hermet, in the subjects of inherited syphilis up to the end of 1884, when he diagnosed an ulcerating syphilide of the external auditory canal in a child aged three years.

Diabetes in Children.—Dr. Jules Simon reports several cases of glycosuria occurring in young children, among which is the following (*Revue Médicale*, December 5, 1885). A girl thirteen years of age, had been under treatment for several months for purpura. One day she reported herself as very much better, and little more would have been thought of the case had it not been that, the evening before, Dr. Simon had been reading of a case of diabetes in which the grave symptoms had been preceded for several months by purpura. He was thus led to examine the urine of this patient, and found it to contain sugar in small amount. The girl presented no other symptoms which would even faintly suggest diabetes, and it was only the chance of having read this case the previous evening that led the author to examine the condition of his patient's urine. He suggests that there may possibly be some connection between purpura and the profound alteration which finds expression in saccharine diabetes. The urine contained no albumen and the blood on microscopical examination was found to be normal, at least there was no excess of leucocytes.

Death from Entrance of Air into the Uterine Veins.—Recent observations have demonstrated anew the possibility of the entrance of air through the veins of the uterus from mechanical causes. Olshausen has reported a case in which the uterine douche was employed to bring on labor in a case of twin pregnancy. During the injection, the woman complained of inability to breathe, rose up in bed and fell back dead. Post-mortem examination revealed the presence of air in the coronary arteries of the heart, as well as in the uterine vessels. Another case has been recorded by Litzmann, in which an endeavor was made to induce labor by means of intra-uterine injections of warm water. The douche was employed several times, and, at the fourth, although every precaution was used, the woman suddenly began to breathe with difficulty, the face became cyanosed and death speedily occurred. Here also the autopsy showed that air had entered the uterine veins. On examination of the apparatus employed to make the injections, it was found that the piston did not fit exactly into the cylinder. A third case, related by S. Braun (*Schmidt's Jahrbücher*, No. 2, 1885), shows that air may enter the uterine veins even when there is no external mechanical cause acting. A woman, twenty-five years of age, healthy and strong, pregnant for the second time, was delivered of a healthy infant. Labor was normal, and the presentation was by the occiput. The woman, who had been delivered on the side, was now placed on the back, and the placenta was delivered by expression. Immediately afterward the woman's face became cyanosed, she vomited, had a convulsion and lost consciousness. The uterus was flaccid, and a little dark blood was flowing from the vagina, but in insufficient quantity to account for the collapse. Death speedily supervened. Post-mortem examination revealed the presence of air bubbles in the vessels of the neck, of the heart and of the uterus. Braun explains this occurrence by supposing that, after the placenta was detached, air entered the cavity of the flaccid uterus, and then, some obstruction existing, the pressure of the hand of the midwife forced it into the uterine sinuses. The writer thinks that this may be the cause of collapse, with or without a fatal issue, sometimes observed after delivery.

Splenic Anæmia.—The affection known as Hodgkin's disease is often confounded with splenic leucocythæmia, as there is in both an exaggerated development of the lymphatic ganglionic system, but in the former the characteristic alteration in the blood is wanting. Dr. Banti has described another form of anæmia in which the ganglionic system is unaffected, but in which there is a very noticeable hypertrophy of the spleen. There is no apparent cause for the impoverishment of the blood, as it seems not to be due to either scrofula, rachitis, syphilis, or alcoholism. Climate, sex, and age appear to exercise no causative influence upon the disease. At the autopsy the liver is found to be somewhat enlarged, and of a yellow or brownish-red color. It appears under the microscope to be the seat of a circumlobular interstitial hepatitis, arising from around the branches of the portal vein. The hepatic cells are normal, or are atrophied and the seat of fatty degeneration. The spleen sometimes fills a large part of the abdominal cavity, and may weigh as much as five or six pounds or more. Its color is brownish-red. The capsule seems to be thickened and opaque in certain places. The microscope shows the lesions to consist of an atrophy and sclerosis of the Malpighian corpuscles and of a general sclerotic degeneration of all the network of the organ. The disease begins insidiously and presents, ordinarily, three stages in its evolution. In the first there is hypertrophy of the spleen, which ordinarily passes unperceived; in the second stage the symptoms of anæmia appear; and in the third the cachexia supervenes and leads rather rapidly to a fatal issue. The patient is easily fatigued, his breath is short, and the pulse is forcible and rapid. The skin and external mucous surfaces are pale, and there is often œdema of the lower extremities. Then the symptoms become gradually worse. The skin assumes a dirty-white appearance, the adipose tissue disappears, and the œdema becomes generalized. Finally, come hemorrhages and fever. As secondary symptoms may be noted, hypertrophy of the liver, dyspnœa, dyspepsia, diarrhœa, weakening of the mental faculties, etc. The only treatment advised by Dr. Banti is extirpation of the spleen.—*Journal de Médecine de Paris*, December 6, 1885.

Arsenic with Quinine in the Treatment of Malaria.—Dr. Ernst Hensler, of West Franklin, Ind., warmly advocates combining arsenic and quinine in the treatment of malarial fevers. He says that his residence in the Ohio bottom lands has given him a wide experience in this class of diseases. Like so many other physicians, he formerly used either quinine or arsenic alone, and often without success; but latterly he has been in the habit of giving the two drugs at the same time. Since commencing this practice, he states, all his cases were rapidly cured and no relapse occurred.

Blood-letting in Erysipelas.—Dr. Daniel Lizzaralde, of Buenos Ayres, stated that he has seen most excellent results following the abstraction of blood in facial erysipelas. The procedure is indicated in the case of a strong, full-blooded adult, when the temperature is high and the cerebral symptoms are threatening.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 23, 1886.

MEDICAL-PRACTICE LAWS.

THE Illinois State Board of Health publishes a collection of the decisions which have been given, up to a comparatively recent period, upon medical-practice laws. These are four in number. The first was rendered by Judge E. S. Williams, in the Cook County Circuit Court, Illinois, October, 1878. This decision established the following points:

"1. The State Board of Health, a corporation created by act of Legislature: constituted, among other things, to have charge of medical practice and medical practitioners in Illinois, and surveillance of the professional conduct of physicians in 'the interests of the health and life of the citizens of the State,' in the exercise of its discretion, cannot be controlled by judicial tribunals. 'Unprofessional conduct' and criminal conduct are not synonymous. The law makes the State Board judge of the former. Equity will not interfere to control its judgment.

"2. The law creating the State Board, and that regulating the practice of medicine, are constitutional and valid.

"3. The right to practise medicine is not a constitutional privilege, nor a property, nor a contract, but a mere statutory privilege, subject to the control of the Legislature."

In July, 1884, the Supreme Court of Minnesota gave a decision upon the action of the State Medical Examining Board, which had refused a license to practise to a quack, because he had been guilty of unprofessional and dishonorable conduct. The points are given as follows:

"1. The legislative act of 1883, regulating the practice of medicine, requires as a condition of the right to practise as a physician (except as to those who have been engaged five years in practice in the State) a certificate of qualification from the faculty of the Medical Department of the State University. Section 9 of the act authorizes this board to refuse such certificate to those guilty of 'unprofessional or dishonorable conduct.' The relator was refused a certificate upon the ground that, as the board determined he was guilty of unprofessional and dishonorable conduct: held,

"1. The applicant had a right to be heard upon the investigation as to his conduct.

"2. The word 'unprofessional' in section 9 is used convertably with 'dishonorable,' having a like meaning.

"3. The act is not unconstitutional.

"4. The relator is not entitled to a remedy by mandamus to secure a review of the correctness, or the reversal of the determination of the board."

We have recently learned from Dr. P. H. Millard, of Stillwater, Minn., Secretary of the State Board of Medical Examiners, that the Supreme Court has rendered two further decisions regarding the Minnesota practice law, both supporting its provisions. The first case was that of a man, E. D. Chapman, whose certificate had been revoked by the board on the ground of unprofessional and dishonorable conduct. The report states that "The sole ground of the relator's objection to the provision of the act empowering the board to revoke decisions is, first, that license to practise medicine, when once granted, is property; second, that the revocation of this license is the exercise of judicial power, which cannot be vested in any power but the courts; third, that to vest this power in a board is to deprive a person of his property 'without due process of law.' The radical fallacy in this chain of reasoning is the assumption that such power to revoke is the exercise of judicial power. There is no distinction between granting and revoking such a license; both come under the police power of the State, the object being to exclude the incompetent. All the States empower boards to issue and revoke licenses to dealers, hackmen, pilots, etc. The constitutionality in such cases has repeatedly been sustained."

In the second case, that of E. E. Feller, the report says:

"In the case of E. E. Feller, the ground on which the writ is asked is not the constitutionality of the revoking power, but that the facts stated in the complaint do not constitute 'unprofessional or dishonorable conduct.' The respondent claims that, if true, this is no ground for issuing the writ, at least not until relator had first pleaded to the jurisdiction of the board, and his plea had been denied. The court holds that the complaint is sufficient. Counsel for relator errs in thinking that the only charge is a breach of professional ethics. The complaint sets forth that the relator advertised his ability to speedily cure chronic, nervous, skin, and blood diseases of both sexes; of the eye, the ear, without injurious drugs or hinderance from business, and others specified, well knowing the claims to be false, and intending to impose on the ignorant and credulous. The gist of the charge is not in the advertisement nor its falsity, but that he knew it to be false. If true, this constitutes unprofessional conduct of the grossest kind."

The law of Minnesota, which resembles that of Illinois, is thus supported by three judicial decisions. And the Board of Examiners is able to refuse or revoke licenses on the ground of unprofessional or dishonorable conduct.

The Court of Appeals of West Virginia rendered a decision, in November, 1884, declaring that the medical practice act of that State was constitutional. A similar decision, sustaining the Missouri State Board of Health, has been rendered by the Supreme Court of Missouri.

It seems as though the validity of acts regulating the practice of medicine was established upon a firm ground.

Unfortunately it has happened that, quite recently, an Illinois court has rendered a decision contradictory, in a large measure, to those previously given, and materially abridging, as we are informed, the powers of the State Health Board in regulating medical practice.

MEDICAL ADVERTISING IN THE DAILY PAPERS.

In the name of all that is reasonable and decent, is it not time that there should be an end put to the sensational reports of so-called remarkable operations, as they are now appearing in the daily papers. They mean nothing, and can do no possible good save to ventilate the weak and senseless vanity of men who can obtain notoriety in no other way. Sometimes the operators have nothing to do with the matter, but in the large majority of instances they take care not to object to the appearance of the reports when they are able to do so. The innocent ignorance displayed on their part as to how they were really made is oftentimes a refreshing contemplation for the student of human nature. But to the ordinary professional mind this goes without the saying. Then, again, the real utility of these sensational stories is to be seriously questioned. To the medical profession they mean nothing more than well-written and highly-colored reports of some of the most ordinary work in any of our hospitals. To the public they are especially misleading, even if they are half-way intelligible. In a word, they prove how much the accomplished press-writer can make out of nothing; he, in fact, is the only one who deserves any credit in the affair. He gratifies his ambition in making the article readable. Rhetoric is one thing, however, and practical knowledge of the subject is another matter. Obviously, the remarkable cases are brought before the wrong court. There is a pressing need for a medical clearing-house for the associated press. Not one of the so-called brilliant operations could legitimately claim a two-line item in any respectable medical journal, and yet we see a half-column of solid type in the jealously-guarded space of a leading daily devoted to such foolish recitals as that of removing pieces of dead bone from the leg, and saving the life of the patient thereby, limbering a stiff joint, while the patient was profoundly under ether, doing impossible things with cocaine, and in one case recently brought to the notice of the public, of actually taking a button of bone from the skull for an old depressed fracture! Patients all liable to recover! Think of it. Medicine certainly should be considered a progressive science by the public, and the daring operators who figure in these exploits should be placed at the head of their calling.

The hydrophobia craze is another phase of the sensational in medicine which is just now occupying the attention of the daily journals. Despite everything that has been said concerning the danger of rabies, and the value of inoculation as a preventive, we have yet to see the game before we fire. Hitting a black cat in the dark is not the best way of proving the relation of cause and effect. It is comforting to know that the public is still safe, but God help the poor dog.

We are hearing, too, of many cases of tongue-extirpation for cancer like that from which General Grant suffered. They are supposed to be interesting, not on account of the operation itself (for this is, alas! not an uncommon one), but because General Grant might have been saved by just such a procedure! What a pity if it is true. What a dreadful mistake the medical staff in charge of General Grant evidently made in not thinking of these possibilities before. It is, of course, too late now to ask the question why a few of the daring and brilliant surgeons, who are reported to be curing their cases up to twenty-four hours after the operation, were not called in time. The best men to judge of the character of General Grant's cancer were those in charge of his case, and who bore the responsibility of its treatment. The verdict of professional opinion indorsed their judgment in every particular. The patient himself, who is credited with ordinary judgment and fair discretion, was satisfied, and what is the utility one way or the other in taking out cancerous tongues by wholesale, merely to prove that a similar procedure would have been the best thing for the lamented General.

If surgeons see fit to cut out tongues and reporters take pleasure in heralding these so-called remarkable achievements, the public should at least be spared by the writers the comparisons with cases they know nothing about. These are on a par, as to point and interest, with the usual accounts of the surgical exploits that appear with startling head-lines in some of the dailies.

A CALIFORNIAN'S VIEW OF THE INTERNATIONAL MEDICAL CONGRESS.

We publish below a letter from Dr. A. M. Wilder, Professor of Ophthalmology and Otology in the University of California, and Vice-president of the Section of Otology and Laryngology in the Ninth International Congress.

We can only reiterate here the opinions referred to by Professor Wilder. It would, we are sure, be much better to have the original enlarged committee added to the present Executive Committee. But this would be an almost complete concession on one side and none whatever on the other. As human nature is constituted, it is possibly asking too much. It is right and necessary, however, that the present Executive Committee concede much more than they have as yet done. There is a desire in this city to accept a compromise, which will involve an assurance that the newly added men will have a positive influence in the management of the Congress.

We regret very much to observe that in Philadelphia, although the most eloquent appeals are made for harmony, yet no spirit of concession is shown, and nothing but complete surrender is demanded.

This does not appear to onlookers as a very genuine form of the "loyalty" which is now the pet word with our Quaker brethren.

Professor Wilder writes:

To the Editor of The Medical Record.

Sir: The most sensible article I have seen in The Record or any other journal, regarding the troubles connected with the proposed Medical Congress of 1887, is the editorial in the number of The Record of December 19, 1885, and is entitled "Measure for Reconciliation." The article in question has the right ring, and should strike a responsive chord in the breast of any one who really desires to have the success of the Congress assured.

It proposes, first, to ignore the quarrels that have existed between the various committees, and to accept the present Executive Committee as the proper body to complete the details, very justly saying that "the profession at large is indifferent to this point, since it feels that this committee would have no right or inclination to oppose

the Congress simply on account of personal disappointment." It very properly demands "equitable representation on a basis that introduces no side issues," and goes on to say that "if the present Executive Committee will now officer its sections on this basis, it will have the full and enthusiastic support of the great mass of the profession and of the medical press."

THE RECORD has made a brave and most honorable effort to bring the factions together, and heal existing difficulties. It drops all controversies, and only demands equitable representation, free from all side issues, the ignoring of which principle by the original committee has been at the bottom of all the trouble.

That, by virtue of geographical position, population, wealth, access to libraries, numbers, easy concentration, and constant opportunities for mental friction upon professional topics, together with the possession of the "open sesame" to the columns of the leading medical press of the country, the large cities of New York, Philadelphia, Boston, Baltimore, etc., should contain a large proportion of the medical writers and teachers of America, and consequently of men more generally known, both at home and abroad, must be patent to all; but that the best practical work in the profession is confined to these large centres is as certainly untrue, and right here the original committee blundered.

If now that portion of the profession who have so persistently denounced the action of the American Medical Association, taken in New Orleans last April, and who have as generally declined to help on the Congress, and resigned the positions assigned to them in the various sections, stand ready to follow the lead of THE RECORD, it behooves the representatives of the great mass of the profession of the country, who are arrayed on the other side, to be equally ready to sacrifice all personalities, and unite on the common basis of making use of the *best means* for securing the *best results.*

With a view to giving this idea a definite form, I would propose that all those who at present hold official positions in the various sections place such positions in the hands of the present Executive Committee, thus giving it the opportunity of making a redistribution of said offices, unhampered and in accord with its best judgment, aided and assisted by suggestions and counsels of the best men in the profession.

As proof of my sincerity in making this proposal, I hereby declare my readiness to place the position I now hold as a Vice-President of the Section of Otology and Laryngology in the hands of the Executive Committee, to be disposed of in accordance with the above expressed views.

Very truly yours,

A. M. WILDER, M.D.

215 GEARY STREET, SAN FRANCISCO, CAL., January 5, 1886.

THE TOPICAL USES OF LACTIC ACID.

PROFESSOR R. v. MOSETIG-MOORHOF, of Vienna, has become an ardent advocate of the use of lactic acid in the treatment of certain morbid growths and ulcerations. His earliest results were obtained with lupus, but he has since used the acid with good success in epithelioma, superficial caries, papillomata, and other new-growths.

At a recent meeting of the Royal Society of Physicians of Vienna, Moorhof presented his views again (*Wiener Medic. Wochensch.*, November 28, 1885), and also showed two patients with extensive epithelioma of the face who had been greatly relieved, if not cured, by the acid.

The especial claim made for lactic acid is that it picks out and destroys morbid tissue, while it has very little effect on the surrounding sound structures. It can be applied to the healthy skin for twenty-four hours without producing more than a redness. Lactic acid can take the place of the sharp spoon and is, in most cases, a more searching and thorough agent.

For superficial application to ulcerating or carious surfaces the pure concentrated acid is used. Absorbent cotton soaked in the caustic may be laid upon the affected part and covered with rubber paper. The surrounding healthy tissue can be protected by covering it with the rubber or collodion. The application is left on from six to twelve or twenty-four hours. It is often so painful that the patients cannot tolerate it for the longer periods. After removing and washing, the part is allowed to rest for a day or so, and then the application is renewed.

Moorhof showed patients upon whom he had made twenty and twenty-six applications.

Parenchymatous injections into the pathogenic foci may also be given. In this case watery solutions of the strength of fifty per cent. to seventy per cent. are used, and from six to fifteen minims injected at a time. Several of these injections may be made at one sitting.

Favorable results with lactic acid have been reported in leucopathic buccalis by Dr. Joseph (*Deut. Med. Woch.*, No. 43). It has also been used in laryngeal tuberculosis by Jelinek, of Vienna, and H. Krause, of Berlin (*Berlin. Med. Woch.*, 1885, No. 25). The latter observer speaks well of its properties; the former declares that "it is no specific against laryngeal tuberculosis," a statement which will hardly surprise any one.

The strong organic acids, more particularly the acetic acids, have for a long time been used as caustics against neoplastic growths. The claim that lactic acid has almost specific powers in selecting for destruction only the neoplastic tissue is one that has been made for other caustics, but never substantiated. Whether lactic acid will do any more than acetic, or than chloride of zinc, or the actual cautery, remains still to be seen. Professor Moorhof's endorsement of, and confidence in, this agent is very strong.

PRACTICAL OBSTETRICS IN THE COLLEGE COURSE.

THE founding of a Maternity Hospital, connected with the College of Physicians and Surgeons, of this city, marks an era in higher medical education which is worthy of more than a passing notice. It is safe to say that in no branch of medicine has practical education been more needed by the student than in that of obstetrics. The majority of graduates have no opportunities for attending cases of labor until they commence actual practice, and no practitioner goes with more hesitation and misgiving to any of his first cases than to these. All the didactic teaching that is possible in the best-regulated college can never balance the clinical experience in even a single case under the guidance of a practical obstetrician.

Doubtless, many of our readers can recall their first experiences in obstetrics, associated, as they were, with the difficulties of making out the presentations, the possibilities of retained placenta, ruptured perineum, twins, and post-partum hemorrhage. Happy indeed was he who in his first vaginal examination could recognize the

dilating os in the midst of the slippery mucosity of its relaxed surroundings, and happier still he who could go beyond and differentiate at once between the presenting head or the obtrusive buttocks. Most of us were wise enough to leave Nature to herself, and she invariably helped doctor and patient. But the students of this generation will have better opportunities in practical obstetrics than those who are of old. The college and the students are to be congratulated accordingly.

THE PREVENTION OF BALDNESS.

It has been estimated that one-half the adult men of American birth living in our cities are bald-headed. The estimate is not exaggerated, if it is applied to persons above the age of thirty, and it may be rather under the mark. If, now, it be conceded that one-half of our American business and professional men are bald at the present time, it would be interesting to speculate as to the condition of the heads of their descendants some hundreds of years from now. The probabilities point toward a race of hairless Americans, for baldness is extremely liable to be propagated in the male line, and to appear a little earlier in each generation. The American nation is threatened with the catastrophe of a universal alopecia.

It appears to be worth while, therefore, to consider the subject of prevention, since no means have yet been found for the cure. Why are so many men bald before their time?

The answer has almost always been that it is due to the excessive strain and ceaseless mental and physical activity to which American methods of business and modes of living conduce. From the visitors' gallery of the Stock Exchange, for example, one views a mob of shining pates belonging, as a rule, to rather young men.

Any reformer, however, who expects to prevent baldness by changing American habits may as well stop at once, for he will surely fail. Now, there may be, perhaps, help in some other quarter. The sons of prematurely bald fathers should bear in mind that if they wish to save their hair it will only be through industrious attention to their scalp. This much-neglected surface should be thoroughly cleansed at certain intervals. It should be carefully and regularly examined, and if it be unhealthy, dry, and scurvy, the proper applications should be made to it. The wearing of unventilated hats is one of the greatest sources of failure of nutrition of the hair, and these must be avoided. The beard never falls out, because it gets plenty of sunlight and air. These are what the hair of the scalp needs, also. Women are less bald than men, because, for one reason, their scalps are better ventilated. In fine, civilization has made the hair-producing organs of the scalp delicate and feeble. They have to be nursed and cared for, or they atrophy and disappear. Young Americans who do not wish to lose their hair before they are forty must begin to look after their scalps before they are twenty.

MEDICAL TREATMENT.

Dr. Samuel Wilks has recently given vigorous expression to certain of his views upon the subject of "medical treatment." Dr. Wilks is a physician who has attained deserved eminence for his work in pathology and clinical medicine. If he has not always attained the scientific method in his writings, he at least possesses the real spirit of the searcher after truth, and is quick to recognize what is empirical and artificial in medical work.

Naturally the present state of therapeutics does not please him, nor is he in sympathy with the present inordinate zeal displayed in some quarters in behalf of new remedies and novel therapeutical procedures. The physician's duty, as a worker for his profession, is first of all, he thinks, along the lines of anatomy, physiology, and pathology. We have enough drugs already. What we need is a more thorough and profound knowledge of disease. Therapeutics was primarily the daughter of superstition. Disease was once a fetich or demon to be placated by nauseous doses or painful external applications. The people still retain this sentiment and clamor for some medicinal exorcisement. Our art is mainly a weak yielding to this feeling. The doctor has to give drugs, and he is naturally ambitious to do it rationally; hence the vain attempts to erect therapeutics, which Dr. Wilks seems to think is really only fetich worship, into a science.

The proper thing to do, however, is to find out the nature of the disease. When this is done we shall find our remedies at hand. He says: "I think I can show you how an improved treatment has come about, not by the discovery of new drugs, but by a better knowledge of the nature of disease and by clinical observation. Thousands of persons are now cured of epilepsy, paralysis, and various other nerve disorders, by means of iodide of potassium; and why? Because syphilis was found to attack the brain and internal organs when a more extended and closer observation of morbid structures was begun to be made in the post-mortem room. Let me most emphatically dwell upon this fact, that an improved treatment, saving thousands of lives annually, arose, not from the discovery of a new drug, but from work in the dead-house. Suppose phthisis is proved to be of bacillary origin and is to be treated by antiseptics, where are we to look for the origin of the improved treatment? Not to any new remedies, for they were already at hand, but to the pathological laboratory at Berlin. The cold bath has saved many lives in hyperpyrexia. The remedy had always been before us, but was not put in force until suggested by the thermometer. Look, again, at the enormous improvement in surgery due to the antiseptic treatment, whereby tens of thousands of lives are now annually saved. This was not due to the discovery of new remedies, but by seeing the necessity for using those which we had. I might go on illustrating the fact that a very large part of the improved treatment of late years has not been by the use of new drugs, but by pathological and clinical researches, which have pointed out the use to us of those which we have always before us."

Dr. Wilks speaks respectfully of pharmacology, and yet it is easy to see that he has no great confidence in its practical results. Incidentally he gives some rather hard raps to certain favorite drugs. Of strychnia, he says:

"I have seen hundreds, many hundreds, of persons with paralysis take strychnia, and I never remember to have seen it of any service. I should regard it as almost a useless remedy in this disease. On the other hand, it is most valuable in gastric and intestinal weak-

ness, but I am not aware that its administration in these disorders was due to any suggestion of the physiologist.

"Then, again, there is phosphorus; this was a scientific remedy, because the brain contained it, but doomed soon to become ridiculous when the public believed their minds were being invigorated by swallowing zoedone. I never remember seeing more than one patient the better after taking phosphorus, and therefore I am bound to look upon this as a coincidence. In my private pharmacopœa I have attached to the word phosphorus the name 'humbug.'

"Another good example is the use of digitalis in disease, owing to its supposed physiological effects. I have within the last week seen it given in pericarditis, typhoid fever, and pneumonia, in order to lower the rapidity of the pulse, and on different occasions in, I believe, every known disease where the action of the heart is quickened. No remedy at the present time seems more popular among medical men, but I have failed to learn that in a single instance it has had any marked effects. It seems to me, on theoretical principles, not possible that a remedy should act in the manner hoped for, when the rapidity of the heart's movements depends upon so many different causes; the only true way to discover its value is to make clinical observations of its action in the different diseases in which it is administered. The application of a physiological result to morbid processes, to my mind, in this and in many other cases, has been fraught with harm, and I cannot regard the method as truly scientific."

Yet Dr. Wilks admits later, that after a drug has been found practically useful, pharmacological studies may throw light upon its mode of action. Pharmacology, in other words, has its usefulness and scientific merit in illuminating the past rather than in penetrating the future.

The views on medical treatment above outlined are perhaps not particularly novel, but it is well, at times, to be reminded of the precarious footing which therapeutics holds as a science.

The very natural comment will be, however, that, after all, most of our advances in the line of treatment have been under blind empiricism. Pathology did not reveal to us that iodide and mercury cure syphilis, or that arsenic cures neuralgias, or quinine ague, or opium peritonitis. In fact, our art lacks so much of perfection that we can not afford to ignore any legitimate mode of activity that may, by any possibility, advance it. But the wise physician will direct his energies only in those channels in which he is the most likely to attain results. This is the moral of Dr. Wilks' address.

THE "BUSY PRACTITIONER" AND HIS NEEDS.

This individual has of recent years become a very unique personage in the community. The conception formed of him is that he is a capable, hard-working member of the profession, with a large practice among well-to-do people. In addition, he has the usual hospital, dispensary, journalistic, society, and other duties, which so largely make up the routine life of every medical man. He is supposed to have a carefully-selected and well-stocked library, and to take all the journals. In short, he is regarded as the nearest approach to perpetual motion of which the human organism is capable. In view of all these demands upon his time, numerous philanthropic endeavors have been made to construct for him time- and labor-saving devices. Particularly is this true in the domain of literature, and to such an extent has this been carried that it would require every hour out of the twenty-four for him to examine even a tithe of all the books which have been prepared for him. To many a man comes the awful injunction that came to Josiah Allen's wife, "Write a book." He does not, like her, shrink with awe from the task, but boldly plunges into the work. The book is written. If it contains the result of original investigation it is generally dedicated to the medical profession at large. If (as is, alas, too often the case) it is merely a rumination of previously known and accepted ideas, without the reinforcement of any new pabulum, the cud is generally thrown to the "busy practitioner," who wisely lets it remain where it happens to fall. Its final fate is either to slowly oxidize into oblivion or to cause mental dyspepsia in the omnivorous medical student.

The authors of some of these volumes seem virtually to say: "Such a book is needed: this book supplies the need." They remind us of that body of religious believers who once assembled and passed the following resolutions: "*Resolved*, that the saints shall inherit the earth: *Resolved*, that we are the saints," and then adjourned *sine die*. It is not recorded that these resolutions ever produced any vital effect upon theology at large.

The busy practitioner is not blind to his own best interests. Such abstracts for ready reference as he may need from general medical literature he prefers to make for himself. If he cannot find time to do this, he should narrow the circles of his duties to that point where he can acquire that indispensable knowledge which will enable him to keep up with the times. He is not harmed by the books of the class to which we have referred. They fall into the hands of students, who make a wrong use of them. Our best, well-rounded students are not those who rely on abstracts and condensations, but those who follow a wide course of reading, centred around original thought and wide experience. In so doing they plough a wider and deeper furrow. Once emancipated from the confining influences of college examinations they press steadily forward, choose the more solid and practical works, and become our independent thinkers.

Above all, clinical facts are always valuable. We have thus far been able to solve but comparatively few of the problems of medical science. Any data bearing on these problems are most welcome, but in view of the present crowded condition of our literature it is a solemn thing to add mere duplicates of what already exists, without adding any new material. The burden is already heavy enough.

THE HEALTH OFFICER OF THE PORT OF NEW YORK.—The term of the present Health Officer expired some time ago, and it is only because a "deal" could not be made that he or his successor has not been appointed. Among the persons who are now reported to be aspirants for the position are Drs. F. R. S. Drake, Charles Phelps, A. Flint, J. C. Hutchinson, T. S. Bahan, and L. Foster.

News of the Week.

A MATERNITY HOSPITAL FOR THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.—Mr. William Douglas Sloane, of this city, is about to erect at his own expense, for the College of Physicians and Surgeons, upon their land, Fifty-ninth Street and Tenth Avenue, a Maternity Hospital. His wife, daughter of the late W. H. Vanderbilt, has endowed the hospital, so that all its beds will be free. When completed, the hospital is to be given to the College. It will bear the name of the "Sloane Maternity."

THE AMERICAN JOURNAL OF OBSTETRICS.—The erroneous impression has reached the profession that *The Journal of Obstetrics* has discontinued the department of Diseases of Children. This is by no means the case. The department of Diseases of Children has merely been discontinued as a *separate* feature of the journal, and has been returned from the care of a special sub-editor to that of the editor-in-chief, Dr. Paul F. Mundé, to whom all contributions relating to pediatrics should be sent.

THE MASSACHUSETTS BOARD OF HEALTH.—A committee from the Massachusetts Medical Society, consisting of six physicians, has been appointed to urge upon the Legislature the advisability of the reorganization of the Massachusetts State Board of Health, by separating it from the Board of Lunacy and Charity.

OUR ESTEEMED CONTEMPORARY, the *Florida Medical and Surgical Journal*, is a vivacious and interesting exchange, with no foolish bias in favor of metropolitan medical centres. especially New York. It should not, however, forget that even the lost children of cities larger than Jacksonville have their rights, and we beg of it, when quoting our editorials, to give us the credit, not the *Weekly Medical Review*.

SUCCESSFUL ENFORCEMENT OF THE MEDICAL LAW.—With the morning of a new year comes the dawn of better days for the medical men in California. Within the last few months several irregular practitioners have been arrested and brought to justice.—*Pacific Medical and Surgical Journal.*

NEW YORK PATHOLOGICAL SOCIETY.—It is rumored that the Pathological Society is shortly to come into the possession of funds which will enable it to found a lectureship.

WE ARE PAINED to see that the *Medical and Surgical Reporter* is departing from its usual conservative and straightforward methods in order to misrepresent the status and statements of THE MEDICAL RECORD. Quoting only a portion of our editorial of January 9th, in which we published the letter of Dr. Johnston, of Paris, it makes us say that "a considerable part of the best men of the profession have been excluded from the International Congress." Our contemporary must know that this is not the whole of the sentence, and it misrepresents our meaning when thus quoted alone. We are forced to add further, that our esteemed contemporary appears to have forgotten that the management of the proposed Congress is not now in the hands of the American Medical Association, but in those of an Executive Committee which has declared itself entirely irresponsible of that body. Appeals to the "loyalty" toward the Association, therefore, are simply a process of beating the wind. Finally, our ever-welcome contemporary should know that italics and small caps cannot make an inherently weak argument vigorous. The *Reporter* is unjust in attributing to us motives of action which do not exist. It is unfair, we think, to its readers in giving them a distorted history of the present status of medical feeling as regards the Congress.

BELLEVUE HOSPITAL AND THE CITY MORGUE.—The annual statistical report of Bellevue Hospital, for 1885, shows that during the year 11,864 patients were treated in that institution. Of that number 1,106 died. There were 585 patients in the hospital on January 1st. The year's record at the Morgue shows that 5,763 bodies were received there, 3,967 were buried in the City Cemetery, and 82 bodies were unidentified.

THE ERIE COUNTY MEDICAL SOCIETY has been enforcing the medical law, and recently caused the arrest of "the veteran phrenologist," O. S. Fowler, for practising medicine without a license.

THE OTHER SIDE OF THE CASE.—While the Drs. Purdy were fined $500 for reporting a case of small-pox, we learn that now Dr. Z. P. Dennler, of Long Island City, has been indicted and held on the charge of not reporting a case of small-pox. Verily, the doctor's position is not a pleasant one.

TESTIMONIAL TO A RETIRED PHYSICIAN.—A movement is on foot to give Professor Tröltsch, the very distinguished aurist of Vienna, a presentation in recognition of services rendered to science and the medical profession. He has for some time been unable to practise, owing to ill-health, and it is proposed to give him a sum of money, accompanied by an address and an album containing the photographs of those interested in his welfare.

HONORING THE MEMORY OF A PHYSICIAN.—The *Maryland Medical Journal* gives an interesting account of the character of the late Dr. William M. A. Maxwell, of Kent County, Md., and says that "during the month of May last a number of citizens of the county assembled, and, after adopting resolutions expressive of their high regard for the deceased and their deep sympathy for his bereaved family, decided to erect a monument as a token of their love for him, and as an indication of their appreciation of his excellence and usefulness as a citizen, physician, and friend. A committee was appointed, and by June 1st $718.25 had been subscribed for this purpose. On December 22d this monument was unveiled, and an able address was delivered by the President of Delaware College, of which Dr. Maxwell was an alumnus, reviewing the life and character of the deceased." The record of such an appreciative deed ought to be a help and stimulus to all who love their profession.

A FUNDAMENTAL OBJECTION TO THE PNEUMATIC CABINET.—Dr. H. P. Chace, of Highland Falls, N. Y., writes: In connection with the subject of treatment of lung diseases by pneumatic differentiation, which is so ably presented in theory, at least, in last week's issue of THE MEDICAL RECORD, I wish to say that if there is any benefit to

be desired from its use it is practically excluded from the large majority of sufferers from lung troubles, by the enormous rental (two hundred and fifty dollars per annum!) asked for these instruments. Not one country practitioner in twenty can afford to use one. In the first place, a country physician has but comparatively few patients with chronic lung disease to treat each year. The aggregate of the cases seen by the country physicians form the large majority of those afflicted with these diseases, but they are widely distributed, and not a great number come to any one physician. Again, many of these can only pay a small fee to the doctor. You can't draw blood from a stone; if a patient has not the means, you can't get from him a large sum for treatment. To be sure, the authors explain this enormous rental under the very high-sounding phrase of "keeping them (the cabinet) out of the hands of unscrupulous men," but the same policy will keep it out of the hands of professional men.

STEPHEN SMITH'S AMPUTATION AT THE KNEE-JOINT.—At a recent meeting of the Royal Medical and Chirurgical Society, London, Mr. Thomas Bryant read a paper on amputation at the knee-joint, and reported thirty cases. The author strongly advocated disarticulation by the method of Dr. Stephen Smith. He exhibited illustrations of the operation, and indorsed completely the remarks of the American surgeon upon the value of his method of procedure, and strongly urged its application to cases of amputation in the leg also. The muscle substance was generally included in the flap in thin subjects, but not in others. The resultant stumps in the leg thereby obtained were excellent. As compared with other methods mentioned, Mr. Bryant stated that the method of Dr. Stephen Smith was to be preferred, as it gave a better covering to the condyles of the femur, and the flaps were less prone to slough; it also placed the cicatrix entirely behind the condyles, out of the way of injury, permitting no bagging of fluids, the stump being in the best position for drainage.—*Lancet*, Dec. 12, 1885.

NO INCREASE IN MEDICAL SCHOOLS AND STUDENTS DURING 1885.—In a pamphlet recently issued by the Illinois State Board of Health, entitled "Medical Education and Medical Colleges in the United States and Canada, 1765–1885," it is stated that the most suggestive facts revealed by a study of the tables and data presented are: First, that the number of medical colleges has not increased during the past year; second, that the number of medical students and of medical graduates are decreasing. There are still 128 institutions for medical instruction in the United States and Canada, the same aggregate as at the date of the last report. But there were 760 less students in attendance upon, and 273 less graduates from, the sessions of 1884–85 than upon and from the sessions of 1883–84. In the United States there were 953 less students, and 278 less graduates. In Canada there were 176 more students, and 5 more graduates. Third, a more marked uniformity in the requirements of colleges. There are two more regular schools (101), the same number of homœopathic (13), one less eclectic (11), and one less physio-medical (1), which with two miscellaneous or mixed schools, make the aggregate (128) as before. The number of medical students in 1882–83 was 13,088; in 1883–84, 12,762; in 1884–85, 12,002. In 1881–82 there were graduated 4,555; in 1882–83, 4,215; in 1883–84, 4,101; in 1884–85, only 3,831. This is not very pleasant news for the colleges, but it is very comforting to the general practitioner who is now fighting for a livelihood. The decrease in students and graduates has affected eclectic schools the most, homœopathic schools next, and regular schools least of all, another fact which is encouraging. The increase in past years in students is most conspicuous in the smaller provincial schools, while in the large cities—Boston, New York, Philadelphia, Baltimore, Cincinnati, Chicago, New Orleans, and St. Louis—there has generally been a decrease. Thus the number of matriculants in medical schools in New York has fallen from 2,209 in 1880–81 to 1,826 in 1884–85. This fact will probably be interpreted in two ways, according to the point of view of the observer. It may mean that the metropolitan schools are getting more rigid in their requirements, or that the provincial schools are getting to be better educational institutions. In our opinion both factors are at work.

ATTITUDE OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY TOWARD THE INTERNATIONAL MEDICAL CONGRESS.—The Philadelphia County Medical Society held its annual meeting on the 6th inst., for the election of officers and delegates to the State Medical Society and American Medical Association. The regular ticket was set aside and a new one elected by a large majority. The following resolutions were presented by Dr. D. Hays Agnew, and adopted:

"*Resolved*, That at its annual election of delegates to the American Medical Association and to the State Medical Society the Philadelphia County Medical Society desires to express its regret at the action of the American Medical Association at New Orleans, in view of the injurious results which followed to professional harmony and to the prospects of the International Congress.

"*Resolved*, That the delegates from this Society be instructed to endeavor to secure such modification of that action as may best conduce to the re-establishment of professional harmony and to the success of the Congress."

"THE SUN" REMEDY FOR HYDROPHOBIA.—*The Sun* is generally brilliant in its eccentricities, but it is now doing a curious thing in publishing from time to time what it calls "Dr. Toal's Remedy for Hydrophobia," as follows: "Wound to be cauterized with strong nitric acid, and then dressed with one-half drachm of belladonna ointment and seven and a half drachms of resin. In the case of an adult the following internal remedy is to be taken: ℞. Kali iodid., ʒ iij.; tinct. cinchona, ℥ ij.; syrup simplex, ℥ iv. One tablespoonful after each meal. For children from one to seven years old, half a teaspoonful is a sufficient dose, and for children from seven to twelve years old, from one to two teaspoonfuls. Putting it in other words, two to five grains for a child under seven, and five grains for one under twelve years. This treatment is to be followed for one week, even when the dog is not mad, as the virus of an angry dog produces hydrophobia. When rabies is manifest, the treatment is to be continued for three weeks. In such a case the fluid can be injected with good effect in doses of from fifteen to thirty grains every two hours."

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MATERIA MEDICA AND THERAPEUTICS.

Stated Meeting, Wednesday, December 16, 1885.

JOHN C. PETERS, M.D., CHAIRMAN.

THIS Section was fully organized on Wednesday evening, December 16, 1885; Dr. John C. Peters was elected Chairman, and Dr. R. W. Amidon, Secretary.

DR. PETERS then, by special request, read a paper on

THE TREATMENT OF CHRONIC RHEUMATISM.

He merely alluded to chronic rheumatisms of the heart, pleura, membranes of the brain and spinal cord, of the eye, ear, throat, kidneys, uterus, etc., and quickly turned his attention to chronic rheumatisms of the joints.

Almost all rheumatisms are connected with an excessively acid condition of many of the secretions and excretions, including the saliva, perspiration, and urine; even the chyme and blood are less alkaline than they should be. Next is the excessive preponderance of *fibrin* in the blood, and the great and early destruction of red blood-globules.

Alkalies form the natural basis of the treatment of almost all rheumatisms, and the first question which arises is whether the potash or soda salts shall be used, or both. As the phosphates and potash salts naturally predominate in the red corpuscles and in the formed tissues, while the chlorides and soda salts are most abundant in the serum and plasma, and in all the infiltrating fluids of all the organs of the body, both potash and soda may have to be used; and they will so aid and compensate each other that neither will have to be given in excess. In chronic rheumatisms Dr. Peters preferred the milder and more tonic soda and potash salts, such as the phosphate of soda, etc. This is a good and mild laxative when purgatives are required; it also lessens the acidity of the mouth, stomach, and bowels which is apt to be present, renders the contents of the thoracic duct and the blood more alkaline, and makes the urine and perspiration alkaline. It also lessens the quantity of fibrin in the blood. It is a cooling and slightly antipyretic remedy, and may be used in strong or saturated solution as a local application to chronically swollen joints. In chronic arthritic rheumatism Charcot prefers the carbonate of soda, of which he gives from seven to ten drachms a day, even to old and feeble women, and says he has never seen anæmia or any dissolution of the blood caused by it; on the contrary, his patients even grew stouter and stronger, possibly from the better digestion of sugar, starch, and fat which is caused by this and other alkalies. It also aids in the destruction of an excess of fibrin in the blood, and helps the liver in its great work of destroying fibrin.

Phosphate of soda is a gentle and pleasant remedy, which may be given in about the way that citrate of potash and Rochelle salts are usually given; the latter in half or one ounce doses when laxation is required, and either in one or two drachm doses when their alkaline effects are more desired. It neutralizes all acids, even that which is abnormally present low down in the large bowels; and moderates the excessive acidity of the normal acid phosphate of soda in the urine, and then helps to keep uric acid and the other urates in solution.

But potash is the natural alkali of the red blood-globules, of the muscles, fibres, and all other formed and solid tissues; and citrate of potash, and even Rochelle salts, which is a tartrate of soda and potash, may reach not only the serum of the blood, but the blood-globules and the parenchymatous structures, when rheumatism is firmly lodged in the latter.

Benzoate of soda is another non-depressing soda salt, although it is somewhat antipyretic when given in large doses. It is a solvent of uric acid, increases the elimination of urates in rheumatic lithiasis, and seems not only to convert uric acid into hippuric, but also to liberate a portion of the products of disassimilation in the form of soluble hippuric acid instead of insoluble uric. In delicate and sensitive patients benzoate of soda may be given with aromatic spirits of ammonia, thus: Sodii benzoatis, 3 vj.; spts. ammon. aromat., 3 vj.; spts. myristicæ, 3 vj.; spts. chloroformi, 3 ij.; spts. gaultheria, ad ℥ vj.—dose, 3 j. to 3 ij. in water.

The hippurate of soda has been suggested lately in doses of five to thirty grains. It tends to produce soluble urates. A favorite prescription with Granville is: Sodii hippuratis, 3 ij.; glycerini, 3 vj.; aq. cinnamomi, ad ℥ vj.—dose, 3 ij. to 3 viij. three times a day.

The tauro-cholate of soda also holds uric acid in solution, and is said to render the stools characteristically rich in bile without causing purging. The usual dose is three to six grains, and it is said to be most useful in obese rheumatic patients, in whom the excess of fat slowly melts away. It is doubtful whether it is more useful than purified ox-gall.

The salicylate of soda is only useful in the acute aggravations of chronic rheumatism. It does not destroy the rheumatic element in the blood.

Valerianate of soda is declared by Granville to be very useful in weak and very sensitive patients. He even thinks its therapeutic value is decidedly greater than that of most of the other salts of soda. It relieves the nervous trouble and hyperæsthesia of rheumatism and gout quite effectively, and he cannot help thinking that it also promotes the activity of the absorbents, thus tending to remove congestion, exudation, and even thickening and hardening about rheumatic joints. Usual dose, one to five grains.

It may be assumed that all the good that can be got out of soda will be obtained by these preparations. Charcot always gives quinine, also, when he uses soda or potash in large and long-continued doses. Others prefer salicine as an anti-rheumatic tonic. Both prevent the excessive formation of uric acid. But the tartrate of potash and iron is the best tonic against the anæmia and debility of chronic rheumatism. It is pleasanter and better than the muriate tincture.

But, as before said, the soda salts only reach the liver and pancreas, the intestinal juices, the chyle and serum of the blood. They do not penetrate into the interior of the red blood-globules, nor into the parenchyma of the muscles and fibrous tissues, which the potash salts do. The acetate of potash, quickly supported by iron, is a most valuable remedy in subacute rheumatism, and especially in those forms which are liable to frequent acute exacerbations.

But citrate of potash is a much more pleasant and less depressing remedy in very chronic cases.

There are, pathologically, two great varieties of chronic rheumatic joint disease: 1, the fibrous; 2, the dendritic. In the fibrous form the tendency of all the exudations is fibrogenous. The inflammatory products or thickenings, instead of remaining in the soft and gelatinous stage of fungoid granulation, become firm and tough. The new cells are converted into fibres, and these harden and contract; even the inner surface of the synovial membrane is made hard. The normal dendritic growths of the villi are conspicuously absent, and in place of them are thick folds of fibrous tissue. The synovial membrane itself is infiltrated with fibrinous substance, composed entirely of fibre-cells, both fusiform and oval; only a few round cells are to be seen.

The favorite remedy for this state is the muriate of ammonia, administered as freely as iodine of potash is often given. If fears are entertained that it will prove too debilitating, it may be aided by aromatic spirits of ammonia, or with quinine, or Huxham's tincture of bark; although Granville prefers the tincture of serpentaria,

which he thinks has a specific effect. The muriate tincture of iron should not be forgotten.

Muriate of ammonia is a solvent and liquefacient remedy which tends to render all the secretions more abundant, while at the same time it reduces the plasticity of the blood and destroys fibrin.

It acts upon the kidneys, and if long continued will cause emaciation, commencing first with absorption of fats and then of soft fibrin. It is used both internally and locally against fibrous thickening of the ligaments and tendons about rheumatic joints. Some go so far as to think it almost specific against all cirrhotic affections of the connective tissues. In chronic rheumatic synovitis it is said to break down all the exudations into a thin mucoid substance which is finally absorbed. It also has a powerful effect on the formation of urea; it is not only converted into urea, but helps to break down uric acid into urea, and aids in the excretion of both. It is also supposed to be really useful in so-called rheumatic neuralgias, when the fibrous sheaths of the nerves are involved. The dose is from five to fifteen grains up to one hundred and fifty grains a day.

Its great rival is corrosive sublimate, which may be given in doses of one-twenty-fourth to one-sixteenth or more of a grain, in Huxham's tincture of bark, or in the tincture of serpentaria.

The next great variety of chronic rheumatic arthritis, or synovitis, is the dendritic, in which the folds or fringes of the synovial membrane are greatly developed, so as to nearly resemble papillomata. For this sabina has been suggested, especially when it occurs in females at the menopause, or where there is decided uterine derangement. Sabina once had a great repute, which was not undeserved, in chronic rheumatism and gout, for which it was employed both internally and locally to the affected joints.

Pulsatilla is a remedy which is supposed to act specifically upon almost all the mucous and synovial membranes, especially those of the small joints, and has a well-assured reputation in chronic rheumatism. It is most useful in subacute and chronic arthritic rheumatism when there is little or no fever; also in what is called rheumatic gout in females, with catarrhal and rheumatic disorders of menstruation.

But next to carbonate of soda, Charcot prefers iodine to the muriate of ammonia and sabina; not iodide of potash, but tincture of iodine, in doses steadily increased from eight to ten drops in twenty-four hours up to thirty to sixty drops. He gives it during meals in water slightly sweetened, or in a glass of Spanish wine, which he says is better. He continues it for several weeks, or even months, and says it never gives rise to symptoms of iodine poisoning. Probably its effects are largely counteracted by the starch in the food. Granville also thinks iodine the most potent and suitable medicine to decompose urates in the blood, and says it relieves chronic rheumatic pains so promptly that he has rarely to use anodynes. But he always gives it combined with muriate of ammonia and chlorate of potash, thus: Ammonii chloridi, ℥ ss.; potassæ chloratis, ʒ ij.; tinct. iodii, ʒ ij.; glycerini, ℥ ss.; aq., ad ℥ xij.—dose, from a tea to a tablespoonful two or three times a day. The taste of this mixture is more disagreeable than that of the tincture of iodine. One of the best prescriptions is that of Dr. Buckler, viz.: Iod. potass., gr. ij.; iodid. ferri, gr. j.; iodine, gr. $\frac{1}{10}$; ext. conii mac., gr. j.—make one pill, to be taken three times a day. These pills are easily taken, and are said to be particularly efficacious in chronic articular rheumatism, even where there is an anæmic, scrofulous, or syphilitic taint. The so-called nodosity of the joints has been successfully treated with iodine.

Arsenic is the great rival of corrosive sublimate, iodine, and muriate of ammonia in chronic rheumatism of the larger joints. Occasionally it produces marked amelioration, but it often fails, and is said to be useless in the most inveterate cases. It generally aggravates at first.

Phosphorus is a more reliable remedy in arthritis deformans, and phosphate of ammonia forms more soluble salts with uric acid than any preparation of soda or lime. Uric acid and the urates disappear rapidly from the urine made after its use, and pains and swellings of the joints are relieved as rapidly as from any preparation of soda or potash. It is fully equal to the other alkalies, and preferable to most of them in delicate and feeble subjects. It maintains a highly alkaline condition of the blood, has a distinctly alkaline reaction itself, and renders the urine alkaline.

Dr. Andrew H. Smith will read the next paper before the Section on "The Treatment of Dropsy with Apocynum cannabinum;" and Dr. Amidon will open the discussion on the local and dietetic treatment of chronic rheumatism.

SECTION IN OBSTETRICS.

Stated Meeting, December 23, 1885.

ALEXANDER S. HUNTER, M.D., CHAIRMAN.

DR. EGBERT H. GRANDIN read a paper, entitled

AN OBSCURE CASE OF ABDOMINAL GESTATION, WITH REMARKS BEARING ON TIMELY DIAGNOSIS AND TREATMENT.

Abdominal gestation is a rarity when compared with other abnormalities of pregnancy; the diagnosis is eminently difficult, and therefore it is why, as a rule, those who are unfortunate enough to meet with this condition fall into error, with the result of death of the fœtus, and not infrequently, also, of the mother. A study of the reported cases shows us that pelvic cellulitis, pelvic peritonitis, ovarian cyst, normal pregnancy, pregnancy in the retroflexed uterus, these and other conditions may be diagnosticated instead of abdominal gestation. The reason for this tendency to error lies in the fact that correct diagnosis is only possible through differentiation of the uterus from the abdominal gestation sac. Such differentiation is only, in the majority of cases, possible through resort to the uterine sound, and this instrument is contraindicated in the presence of marked classical and physical signs of uterine pregnancy, if the bimanual examination fails to differentiate certainly the uterus separate from the gestation sac.

In abdominal pregnancy, ordinarily, the history and physical examination suggest uterine gestation, except that there are present, in addition to the classical, rational, and physical signs, the further symptoms of intermittent attacks of pain, irregular discharges, and, perhaps, the passage of what might suggest a decidual membrane. This additional history, according to all our text-books, points strongly to ectopic gestation, and yet this history is very fallible. The irregular attacks of pain, particularly if accompanied by hemorrhage, will preferably suggest impending labor, or abortion, or uterine pregnancy complicated by placenta prævia, rather than the rarer condition—ectopic gestation. The decidua, if seen, and it rarely is, would be of only presumptive value in diagnosis, because both intra- and extra-uterine pregnancy may go on together to term, and therefore a decidua, and even a fœtus, may be passed without invalidating the presence of an abdominal gestation. Of course, if the physician waits and watches, he may disprove impending labor and abortion, but the reader of the paper contended that the physician need not and ought not to wait (indeed, in the interest of both the mother and the child, will often feel he has no right to wait), because there are always absent in advanced (beyond the fourth month) abdominal gestation signs which necessarily can only accompany uterine gestation. These signs are: the uterine souffle, the intermittent rhythmical contractions.

The first of these signs is only of negative value, because it is inconstant. If heard, it points to uterine gestation; if not heard, this is no certain proof that uterine gestation does not exist. The second of these signs is, in the reader's opinion, positive, and yet it is referred to by only one authority (Lusk), and he very briefly, as of value in differential diagnosis. These contractions are, in the hands of a careful observer, diagnostic of uterine pregnancy, and are present whether the fœtus be dead or alive. In case of abdominal gestation they must be absent, because the sac, if it contain any muscular fibre, does not contain sufficient to simulate uterine contraction. This sign, therefore, will always make the distinction between uterine and abdominal gestation.

Dr. Grandin then related an obscure case of abdominal gestation, which he had seen in consultation with Dr. W. J. Burnett, of Long Island City, and in which every means of physical examination failed to make the diagnosis until the sound established the vacuity of the uterus. In this case he did not think of the value of intermittent uterine contractions, else, he felt sure, he could have made the diagnosis without the sound.

This case brought prominently forward the question of treatment applicable to abdominal gestation. The conclusions reached were: If the child were viable, and at term, do laparotomy, which operation gave the child a chance, and did not materially alter the prognosis for the mother, always provided that, at the operation, the placenta were not interfered with. After the death of fœtus, the rule should be to wait until unfavorable symptoms supervened, when, unless the fœtus were small and *distinctly* presenting at some portion of the vagina, laparotomy should be resorted to. This position is in accord with the opinion of all authorities, and based on statistical data. The mortality percentage from opening through vagina is sixty per cent.; from leaving the case to nature's eliminative efforts is 52.65 per cent.; from laparotomy after death of fœtus varies from 15.+ to 38.+ per cent. Even in face of peritonitis, septicæmia, and deep exhaustion, laparotomy has been performed and life saved. Incision by the vagina resembles nature's crude efforts at elimination, and is, therefore, almost always followed by death resulting from the long-continued suppuration the patient is necessarily subjected to. Particularly are these remarks applicable to cases where the putrid fœtus lies high in the abdominal cavity, and therefore cannot be reached through any incision *per vaginam*. Through laparotomy, on the other hand, the putrid fœtus may be at once removed, and the source of suppuration and sepsis is thus taken away from the patient. The shock resulting from laparotomy is not, by any means, so great as that to which the patient is subjected by the prolonged suppurative process necessitated by vaginal incision, the chief reason being that the peritoneum, in the cases under consideration, has been subjected to insult for months, and is, therefore, less sensitive to the surgeon's knife than if it were a "new peritoneum." The reader therefore contended that laparotomy should ever be the operation of choice, especially to-day, when operators were more skilled, the value of strict cleanliness better appreciated, and when the technique of this operation had well-nigh reached perfection.

Dr. Barnim Scharlau read from the hospital notes of the case as recorded in the Mount Sinai Hospital, in which it appeared that the patient entered on August 24, 1885. For the past six weeks she had emaciated rapidly, had had fever, sweating, and after admission the temperature rose from 102.4° to above 104° F. Dr. Scharlau then gave the physical signs present when he examined the patient, the abdomen being distended by a large tumor which extended in the median line as high as the umbilicus, and which had the general form of a fœtus. The uterus was drawn up and pushed to one side; the sound entered to the depth of two and a half inches. The rectum was pushed to the right side of the pelvis; fluctuation was felt through the vaginal walls. August 27th the speaker introduced a hypodermic syringe into the fluctuating mass in the vagina, and pus of a disagreeable odor was withdrawn. August 28th an operation was performed, the patient being under the influence of ether. It was not his intention in doing the operation adopted to confine himself to making an incision into the vagina, leaving the entire subsequent care of the case to nature. The first indication, he thought, was to evacuate the pus; and in making an opening into the vaginal wall for this purpose he thought that, if it were then possible by dilating the opening to reach the fœtal remains, they could also be removed. But after the escape of forty ounces of pus, a flexible sound was introduced to discover, if possible, a communication between the abscess and the amniotic sac, but no such communication could be demonstrated, and nothing could be felt with the finger excepting a soft mass which appeared to be a coil of intestine. Dr. Fluhrer was also unable to feel the fœtus. The patient's condition before the operation was very low. She did not stand the ether well, and there was danger, by further attempts to reach the fœtus, of penetrating the intestine; consequently, nothing more was done than to wash out the cavity, introduce a very large drainage-tube, and put the patient to bed. She did not fully recover from the shock of the operation, and died two days afterward. It was Dr. Scharlau's opinion that if laparotomy had been performed the patient would have died under the knife. At any rate, her condition was such as to lead him to select the more careful procedure.

Dr. P. F. Mundé said that when, during his absence from the city, he was informed of a case of abdominal pregnancy entering his wards in the Mount Sinai Hospital, and he was unable to return to take charge of it, he envied Dr. Scharlau, under whose care the patient then came, his opportunity; but since he had learned what proved to be apparently the inevitable result of the case, he had changed his mind. The difficulty of making a diagnosis in abdominal pregnancy was illustrated in a case seen by Scanzoni a number of years ago. After the patient had visited him he told Dr. Mundé that he had seen a case in which he could not say whether there was abdominal pregnancy, uterine pregnancy, or pregnancy at all. Afterward he made up his mind that it was a case of pregnancy. The patient died, and on the post-mortem table it was found that there was abdominal pregnancy. The case then appeared so plain that it seemed astonishing that a man of Scanzoni's experience should not have readily made the diagnosis, and saved the patient's life by laparotomy. Regarding the treatment in the case related to-night, personally he knew nothing about it, but from what he had heard he must agree with Dr. Scharlau that the patient's condition was so low that it would not have been proper to do anything else than to evacuate pus, which was causing sepsis, by making an opening at the most accessible point, namely, in the vagina. He was speaking, however, of this particular case, and not of cases generally. Here the indication to evacuate the pus could not have been so well met by laparotomy. Drainage by that operation would not have been so good, and shock would have been greater. Probably the patient would have succumbed sooner to shock, although only slightly greater, had abdominal section been performed.

But he agreed also with Dr. Grandin when he said that laparotomy in general was the proper treatment for these cases. If he could feel a fluctuating mass, containing fœtal bones, in Douglas' cul-de-sac, he should probably make an opening there; but usually the fœtal parts were situated higher up, and here laparotomy should be performed, the fœtal remains be removed, and drainage effected. Dr. Mundé had seen Dr. Thomas perform laparotomy in these cases several times, and he had been surprised at the ease with which he carried out the procedure, and by introducing a drainage-tube and irrigating the cavity the patient recovered without any difficulty.

Concerning diagnosis, he thought the point regard-

ing contractions of the uterus made by Dr. Grandin a good one. But practically Dr. Mundé could say little; he had seen only one case of abdominal pregnancy, and in that instance only on one occasion. After diagnosis he did not think operative interference should be undertaken until term, and then the question would arise as to the possibility of saving the life of the child. There were a number of cases in which the fœtus had been extracted after laparotomy, the placenta being left to come away after its own manner. He thought this a perfectly justifiable procedure if the child were alive and viable. If the child were known to be dead, he should think the lapse of a short time before resorting to an operative procedure would matter little, but he did not believe we should wait for septic symptoms to appear, or for the bones to work their way into the external world through the rectum or other passage. He thought it would be perfectly justifiable before this period had arrived to make an exploratory incision and remove the foreign substance.

Dr. W. T. Lusk said we owed a debt of gratitude to anyone who would give so distinct an account of a well-observed clinical case as had been presented this evening; we were especially under obligation to Dr. Grandin for bringing out so clearly the diagnostic points, which, under any circumstances, are none too definite in these cases. Last May Dr. Barker, Dr. Thomas, and Dr. Lusk saw a patient who came from the West; she had gone to the full term of gestation, and had been carrying a child in the abdominal cavity six months after its death. She had stopped to see a gynecologist out West, well known to all of us, who examined her carefully and said that she was suffering from a fibroid of the uterus. He cautioned her against falling into the hands of surgeons in this city, telling her to enjoy herself, spend her time quietly, and to keep away from the surgeons. The case simply showed how eminent men will make mistakes in diagnosis in abdominal pregnancy. It was not necessary at that time to operate, but the patient will probably soon return for an operation.

While all agreed that it was desirable to perform laparotomy, to save, if possible, the life of the child, it was well to bear in mind the results of such operations. There were thirty-one such cases on record, and in only two did the mother recover. Therefore, the method of operating must be improved before we could entertain hope of good results. All of the twenty-nine patients died of hemorrhage or of profuse suppuration following it.

Dr. Lusk then related the following case, which in many respects was parallel to the one related by Dr. Grandin: The woman was a Hungarian, thirty-two years of age, who entered Bellevue Hospital on May 25, 1885. She was the mother of three children, the youngest of whom was three years old. At the birth of this child she had no medical attendance. It seemed that a severe laceration occurred, the exact nature of which was unknown, and intense inflammation followed. Finally, she was taken to Mount Sinai Hospital, and while there an operation was performed for laceration of the cervix. She was benefited by rest and the operation, and went out of the hospital, but soon intense pelvic pains developed. In spite of this, however, for a year and a half she did her ordinary work. The pain then became so severe that she called a physician, who took charge of her for four or five days. For six months she was unable to work. She entered Bellevue Hospital May 25, 1885, having been seized with profuse hemorrhage. The discharge of blood had been intermittent, occurring sometimes at intervals of two weeks, sometimes three weeks; but lately the intervals were much shorter, and during the last profuse hemorrhage she was seized with violent pains, and went into partial collapse. Dr. Lusk saw her the next day, when he found a large flaccid tumor, situated behind the uterus, and pressing the organ upward and forward; its outlines could be distinctly mapped out. Dr. Lusk thought it was a case of recent hæmatocele. At the end of a week he examined the patient again, and found that the tumor had increased in size, and, instead of occupying the median line, it was to the left side. He then suspected extra-uterine pregnancy, but on passing a hypodermic needle into the sac he withdrew it full of blood. This seemed to confirm his first diagnosis of hæmatocele. The patient remained in the hospital with symptoms of pelvic peritonitis and cellulitis, and symptoms due to pressure of the tumor, until the 15th of June, when he examined her again, and found that the tumor had increased very rapidly, and now occupied for the most part the left side. Tension was very great, the uterus reached nearly as high as the umbilicus; there was distinct pulsation of the vaginal parts, which left very little doubt as to the nature of the case. Still he felt puzzled from the fact that before, on introducing the syringe, fluid blood was withdrawn. He was, therefore, tempted to do that which he would not recommend any one else to do, namely, to introduce the needle again. This time he got clear fluid, and it was decided to be fluid from the amniotic sac. The child was no doubt living; the tumor was growing; the vaginal arteries were pulsating distinctly. The faradic current was applied that night, twice the next day, and on the morning of the third day, the 19th of June. On the afternoon of this day acute inflammation developed, thought to be probably due to introduction of septic matter on the needle. This continued for several days, but on the 2d of July the temperature suddenly fell to 95.5° F. in the axilla, and to 97.5° F. in the rectum, and the patient said she felt a great deal better. Diarrhœa set in, the pulse became very rapid and very compressible. For two or three days she continued to feel better, and then had a violent chill; the temperature rose to 103° F.; on the 9th of July it was 104° F., and it continued high on the 10th. The next day if fell somewhat, and the temperature chart presented a moderate curve until the 15th, but the pulse was very rapid and compressible. These observations were made by the house physician, Dr. R. Sayre, as Dr. Lusk, soon after making use of the faradic current, went to Europe. On the 15th of July the nurse noticed a tumor projecting from the rectal wall, and Dr. Sayre on examination found the posterior vaginal wall torn up to its junction with the uterus, and through this opening his finger came in contact with a fœtal head. He extracted the fœtus, which measured about eighteen inches in length, and was attached to the cord, which measured about eight inches. He then introduced his hand into the sac, which had thick walls, and removed the placenta piecemeal. All portions of the sac except that to which the placenta was attached were perfectly smooth. When he finished the pulse was 144, the respiration about sixty. It was thought the patient was about to die, and they did not wait to wash out the sac, but put her to bed, gave digitalis, and had the nurse administer whiskey, a few drops at a time as the patient could be made to take it. The patient having rallied somewhat by evening, the sac was then washed out. Death seemed to be inevitable, but by judicious treatment and constant care the patient was cured, and on Dr. Lusk's return to his service in September, she was walking about the wards. She was discharged the 1st of October, entirely well.

The case was interesting to the speaker because there was, as there commonly is in cases of extra-uterine pregnancy, a long antecedent history of pelvic inflammation; then there developed hæmatocele, for there must have been hemorrhage into the peritoneal sac, as was demonstrated by the withdrawal of blood by the syringe, and this gave rise to difficulty in diagnosis. Use of the electric current caused death of the fœtus, and unfortunately at this time a septic process was set up by the introduction of poisonous matter with the exploratory needle. The patient owed her life largely to the judgment exercised by Dr. Sayre in the management of the case; instead of observing a fixed rule in washing out

the cavity of the sac with an antiseptic fluid, as theoretical considerations might seem to indicate as the proper course, he made the injections only at such times as the patient seemed best able to withstand the disturbance. When she was extremely feeble the injections were omitted.

DR. E. L. PARTRIDGE said he had nothing to contribute in the way of clinical observation. With regard to the diagnostic value of intermittent uterine contractions, he thought it a very good point to be made; perhaps it was the most important differential sign between uterine and abdominal pregnancy after four and a half months had passed. But even with this and all other signs he thought we were in danger of making a mistake in diagnosis, and for this reason he would take occasion to emphasize the importance of more careful study of ordinary cases of pregnancy. The more familiar we were with the signs of natural pregnancy the more likely would we be to detect abdominal pregnancy should a case occur in our practice. Each case had to be considered upon its own merits, and he thought the value of uterine contraction in diagnosticating uterine pregnancy, as distinguished from extra-uterine pregnancy, would be like that of *ballottement* as a sign of ordinary pregnancy; when it could be clearly made out the diagnosis would be positive, but the difficulty would rest in assuring ourselves that this sign existed.

DR. H. J. GARRIGUES corrected the author, who said he, Dr. Garrigues, in going over the literature of the subject for four years had found four hundred cases of extra-uterine pregnancy; he should have said two hundred cases. The point he desired to make, however, was sustained, namely, that extra-uterine pregnancy was far from being as rare as the text-books would lead us to believe. He thought the author was correct in laying stress upon the presence or absence of uterine contractions in the differential diagnosis between uterine and abdominal pregnancy. But he was unable to speak from experience, inasmuch as he had seen only one case of advanced abdominal pregnancy, and that was many years ago, when he less appreciated it than he would now, and the patient was in another man's care. He would call attention to another symptom, probably little known, but which was pointed ont by Dr. Howard, of Baltimore. Dr. Howard argued that if the fœtal heart-sound could be heard near the abdominal wall, and the uterine souffle could not be heard, it was a sign of abdominal pregnancy. We often had the opposite condition, presence of the uterine souffle, and absence, so far as could be heard, of the fetal heart-sound; but presence of the souffle did not necessarily point to uterine pregnancy, but this sign would be present only after pregnancy was well advanced.

With regard to treatment, he differed somewhat from the teachings of others, especially those of Dr. Thomas, both in the earlier and later periods. He thought that in the early period we should certainly destroy the life of the fœtus by electricity, which is an entirely safe and reliable method. With regard to how far the period for adopting this treatment should be extended, he advocated its use at any time. In fact, it had been employed at the end of the sixth month, in a case reported in a Berlin journal, and the patient afterward menstruated regularly, gained in flesh, and was in good health. The tumor, after destruction of life by faradization, became nodular, increased in hardness, and greatly diminished in size.

Dr. Garrigues did not believe in the employment of laparotomy. He thought the statistics given by Dr. Lusk were very convincing; there were thirty-one cases, twenty-nine of which ended fatally. If we compared with these statistics those of secondary laparotomy, the results in the latter were very good, considerably more than half recovering. He would not agree with Dr. Mundé in advising that laparotomy be performed after death of the fœtus when the woman was in good health, for there were a number of cases on record in which the fœtal remains became mummified, and the woman retained her health. Should she become sick, however, and fever set in, he should do laparotomy.

DR. MALCOLM MCLANE directed attention to the importance of making an examination under anæsthesia in doubtful cases.

DR. H. J. BOLDT referred to a case of abdominal pregnancy, which he published in the *American Journal of Obstetrics* in 1880, and said that the history of the case differed from that of the case related by Dr. Grandin, in that there had not been pelvic inflammation nor irregular discharges.

DR. GRANDIN, in closing the discussion, said that he had not intended to criticise the treatment adopted by Dr. Scharlau in this particular case; his remarks were intended only to be general. Under the circumstances he probably should have adopted the procedure carried out by Dr. Scharlau. With regard to the value of examination under anæsthesia, he was unable in this instance to make a correct diagnosis until the patient had been anæsthetized.

The Section then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SOME CURIOSITIES OF THE MEDICAL DIRECTORY—THE MEDICAL TEMPERANCE PRIZE ESSAY—CASES AT THE THROAT HOSPITAL.

LONDON, January 5, 1886.

AN unfailing object of interest, with the commencement of a new year, is the appearance of the annual volume known as "The Medical Directory." This is not an official publication, although it is supposed to be such by many uninitiated persons. It is, though, far more trustworthy than the official "Medical Register," being compiled from annual returns from members of the profession, most of whom comply with the request to return the annual form sent for corrections. From this reason it is also a very interesting work, and compares very favorably with the arid columns of the "Medical Register." Many curious and interesting facts may be gleaned by glancing through its pages. We see, for instance, that among the older hospital surgeons all those who have the F.R.C.S. Eng., put (Hon.) after it, showing that it has not been acquired by examination. *So far as examinations go*, therefore, their position at the College is not better than that of simple members. It might fairly be claimed that it is not so good as that of a modern member, considering that thirty years ago the only test of knowledge applied to candidates for the M.R.C.S. consisted of an hour's *viva voce* examination by members of the Council, thus differing widely from the varied ordeal through which present-day students have to pass. Examinations are not, of course, everything, and it is only the rising generation which thinks so. Still, the fact recorded above is not without interest taken into consideration in connection with the controversy still raging as to the rights of members. The honorary fellows include among others such honored names as James Paget, Richard Quain, Samuel Lane, Thomas Blizard Curling, Charles Hawkins, Prescott Hewett, George Viner Ellis, John Simon, William Bowman, Spencer Wells, Wharton Jones, and George Murray Humphry. The above list might easily be extended. Among the above are several ex-presidents of the College, and four baronets.

The varied lengths of the entries in the "Directory" is not without interest. Many medical men apparently try and make the most of themselves, their qualifications, and published writings. Others go on the opposite tack. Among the former must be placed the gentleman who styles himself M.D. (Logic) on the strength of having

passed his examination for the M.D. at the London University in logic alone, which forms a very minor part of the examination. The number of senior demonstrators of anatomy at University College is, too, something bewildering if the "Directory" is to be taken as evidence on this point. Under the latter category must be placed no less a person than Professor Ringer, who, with a commendable zeal for brevity, does not insert the names of any of his published works. Here also must, I presume, be ranged a London surgeon who, a few years ago, inserted M.B. Camb. after his name, but has apparently thought better of this and now omits it.

A reference to the "Directory" will also show that the ophthalmic surgeon at one of our largest London hospitals was educated in the first instance for the veterinary profession and qualified as a veterinary surgeon; that one of our best-known ovariotomists began life as a naval surgeon, and that a well-known obstetric physician began his career as a surgeon in the Indian army. The paucity of graduates of the University of London among London practitioners is very apparent. Many graduates of that university in arts and science have apparently been forced to go to other universities to qualify in medicine.

Some time back the Medical Temperance Association (consisting of medical men who are themselves abstainers) offered a prize of one hundred guineas to the best essay on the subject written by a medical student. The award has just been made. The increasing number of abstainers among medical men and medical students is shown by the large number of competitors, and by the fact that three are named as worthy of special mention, besides the actual prize-winner.

In some recent visits to the out-patient clinic of the Hospital for Diseases of the Throat I have had the opportunity of observing several interesting cases. One was a rare case of hemorrhagic laryngitis complicated with facial erysipelas, and the existence of an abscess in one of the cervical glands. Strange to say, the general health of the patient did not seem much affected. Treatment was at first directed to the erysipelas. At the second visit this had disappeared. I also saw a case of malignant disease which strongly reminded me of the published medical account of General Grant's case. It seemed to have begun much in the same way, but had extended so far on his first application to the hospital, that it seemed as if the patient could not long survive. Another interesting case was one of anchylosis of the right arytenoid cartilage. It appeared to have existed for some time, the patient having come under treatment for an attack of acute laryngitis supervening on a chronic affection. There was no history of syphilis or tubercle, but the patient was in bad health, and it was feared that the cartilages were affected. In one afternoon I saw five cases of stricture of the œsophagus. Two of these were evidently malignant and in an advanced stage; one was apparently either fibrous or syphilitic, in a young man, for whom large doses of iodide were ordered; one, in a man about forty, seemed to be pouched, and regurgitation of food was tolerably constant; the other, in a young woman, was apparently spasmodic.

PROFESSOR HAMILTON'S PAPER ON THE "ART OF PRIMARY UNION," AND DR. T. R. VARICK'S HOT-WATER APPLICATION.

To the Editor of The Medical Record.

Sir: Anything from the pen of Professor Frank H. Hamilton is interesting and of benefit to the medical profession, owing to the writer's long and extensive experience in the field of operative surgery.

The aphorism that "There is nothing new under the sun," is well proven by Professor Hamilton's historic account of "union by adhesion." That the success of operators a hundred years ago should equal, if not excel, the success of modern operators is *mirabile dictu*. Can it be that surgery is so non-progressive as this? Indeed, until the past decade or so there was really a retrogression. To-day we have only recovered the ground lost and returned to the methods in vogue during the days of Alanson and his contemporaries. Where can any modern operator show results equal to those obtained by Alanson in 1779—thirty-five successive cases of capital amputation safely piloted to recovery?

Professor Hamilton's disposal of Listerism is at once effective and conclusive. The suspicion of jugglery and humbuggery attached to the Lister method works to its disadvantage. Science deals only with truth and fact—not with pretence and fiction.

The blind devotion and infatuation with which some of the followers of Lister advocate and practise his tenets is akin to the superstition of certain African tribes who believe in fetich.

To some, otherwise sane and rational medical scientists, Listerism is a veritable *ignis fatuus*.

To a specious and questionable theory they attribute a success that is due simply to an improved mode of operation and treatment. A strict attention to detail in operation and treatment, perfect cleanliness, and proper drainage is the true reason for Lister's success, and not his germicides and gauze.

To that famed and most odoriferous drug, that remorseless exterminator of germs—carbolic acid—supernatural powers are attributed.

Professor Hamilton, in commenting upon the treatment of large incised wounds, refers to a paper read before the New York County Medical Association in February, 1885, by Dr. Theodore R. Varick, Surgeon to St. Francis' Hospital, Jersey City (not Newark, as stated in Professor H.'s paper).

The article in question was entitled, "The Protective Treatment of Open Wounds," and advocated the application of hot water, or water a little below the boiling point, to the raw surfaces of wounds immediately after the larger vessels had been tied, the application to be kept up until all oozing had ceased and the parts thoroughly glazed.

The Professor goes on to state that Dr. Varick attributes his remarkable success (a recovery of thirty-seven cases out of thirty-nine capital amputations) to the power of hot water to close hermetically the capillaries, and thus prevent the admission of germs. While Professor Hamilton endorses Dr. Varick's practice as valuable, and one he had often adopted himself, he does not accept his theory, on the ground that the most of the cases reported by Dr. Varick were of the class known as "railroad injuries," and as a consequence there must have been extensive exposure of the vessels by laceration, thus affording, for some time previous to the operation, an unimpeded opportunity for the ingress of atmospheric germs.

If the Professor had read over more carefully Dr. Varick's paper he would not have made the mistake of unintentionally misrepresenting him.

Dr. Varick, in describing the dangers of immediate absorption of atmospheric germs after railroad injuries, where there has been laceration of the soft tissues, says: "As before suggested, the open stomata of the vessels would seem to offer special opportunities for the introduction of atmospheric germs, and the imbibition of any extraneous poison, gaseous or fluid. Such would be the case were it not that the flow outward—which occurs at the time of the infliction of the wound and continues for a greater or less period thereafter—of the fluids washes away any foreign substance which may lodge on the abraded surface.

"From arteries and arterioles there is an accelerated current, from the veins and venules a reversed current, and from the lymph spaces an outward flow—all exerting a conservative influence and temporary protective power; so long as these exudations occur the patient is safe from contamination from without."

As has already been stated, Professor Hamilton's objection to Dr. Varick's theory is based on an assumed exposure to infection of a lacerated wound from the time of its inception to the time of treatment. The above quotation from Dr. Varick's paper answers this objection, and offers a very plausible theory for the protection of the patient from atmospheric germs (if such things really exist) during the *ad interim* period. Provided the patient is not in *articulo mortis*, there is an invariable oozing sufficient to prevent the ingress of septic matter.

This theory of Dr. Varick is not only tenable but clearly proven—supposing, of course, that there is no doubt as to the existence of atmospheric germs and their capability of absorption by raw flesh surfaces—by the absolute immunity from all septic complications of the thirty-nine cases reported by him.

Professor Hamilton, commenting further upon the use of hot water in surgical operations, says: "Dr. Varick recommends that the water have a temperature 'slightly below the boiling-point.' This might do if one were to apply it by means of a sponge, and then only for an instant, as I have often done to close a bleeding arteriole, but if employed continuously or by irrigation through the nozzle of a tube it ought not to exceed in temperature 112° or 115° Fahr., or the temperature which may be easily borne by the naked hand."

The chief purpose for which Dr. Varick advocates the hot-water application is to coagulate the albuminous flow from the stump or wound and constringe the bleeding orifices of arterioles and venules. Water at a temperature of 112° to 115° Fahr. would utterly fail to secure either coagulation of albumin or constringement of arterioles and venules; indeed, as to the latter, it would *rather favor* hemorrhage than restrain it.

To coagulate albumin hot water must have a temperature at least of 140° Fahr. Another very important property of hot water is to promote reaction, when applied to muscular and nervous tissue stilled to a passive and lethargic condition by the influence of the anæsthetic. To secure this reaction the water must be *hot, not warm.*

Dr. Varick thus describes the effect of hot water upon the albuminous flow from an incised wound: "In a coagulated state it (albumin) covers the face of the stump or surface of the wound, forming a perfectly fitting impenetrable shield, plugging up every capillary stoma; where heat is the agent employed, constringes every arteriole and venule, and if applied before the outward flow from the divided vessels has ceased, makes the patient absolutely safe from any septic infection from without whatever." This, the doctor says, is a sweeping assertion, but it is based on a long and varied experience.

For the past fifteen years it has been my good fortune and privilege to be associated with Dr. Varick, as a surgeon to St. Francis' Hospital, Jersey City.

Seeing the wonderful success that attended his operations I was led to adopt his method. Previous to the use of hot water at operations, the ordinary methods of the day had been employed. Listerism had been given a fair trial—the attention to detail so earnestly enjoined by its originator had been faithfully carried out, but the results were not such as would warrant a continuance of its use. Possibly it may have been due to some fault in my use of "the method"—perhaps the carbolic acid solutions may have been not just of the proper strength—or I may have inadvertently forgotten to properly carbolize some of the paraphernalia pertaining to the "system." However, I followed directions as closely as possible—carbolized everything and everybody. If an atmospheric germ was able to survive in the operating-room he must have been a very sthenic germ, for the carbolic fumes nearly killed the operator and his assistants.

Of a total of forty-four amputations I performed before using the Varick method, sixteen died—five of these cases were treated *à la* Lister, with two deaths. Since I have used the Varick method I have had twenty-nine amputations, with six deaths. Of these six deaths not one could be attributed to a septic complication. One half of the previous sixteen deaths were due to blood-poisoning, the two deaths under the Lister system being unmistakably due to that disease.

A thorough system of drainage in the after-treatment of incised wounds, with perfect cleanliness, is a *sine qua non* to success. This, with the use of hot water at the time of operation, and a painstaking and conscientious attention to detail, as recommended by Velpeau, Lawson Tait, Hamilton, and others, will secure results, in my opinion, far exceeding the success claimed for Listerism or any other antiseptic process.

JOHN D. MCGILL, M.D.,
Surgeon to St. Francis' Hospital, Jersey City, N. J.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 10, 1886, to January 16, 1886.

SWIFT, EBENEZER, Lieutenant-Colonel, U.S.A. (retired). Died near Hamilton, Bermuda, December 24, 1885.

New Instruments.

A NEW PATTERN OF URETHRAL SOUND.

By J. E. TEFFT, M.D.,
LECTURER ON GENITO-URINARY SURGERY IN THE UNIVERSITY OF MISSOURI, SPRINGFIELD, MO.

ONE who proposes to the profession a new instrument must needs apologize, hence I offer the proposition and the apology together.

I invite the attention of the profession to a new pattern of urethral sound. The straight shaft is six and one-half inches in length—the average length of the spongy urethra; the curved and conical part three-fourths of an inch in length—the average length of the membranous urethra; the tip is three-fourths the size of the shaft. Hence, when this instrument is passed

into the average urethra its full length, the commencement of the straight full-sized shaft is at the triangular ligament, and the tip is at the apex of the prostate. The prostatic urethra is not invaded at all. Its advantages over the full-curved sound are several. By its use we get all the benefit that can be had from *any* sound, with none of the mischiefs which are liable to follow the invasion of the prostatic urethra and the bladder; it being conceded that in more than nineteen-twentieths of the cases of urethral disease, for which the frequent use of steel sounds is indicated, the disease is in front of the deep perineal fascia.

1. *It does not cause prostato-cystitis*, which frequently follows passing instruments into the bladder, and which is especially to be deprecated when the bladder is already affected with a mild, chronic hyperæmia or inflammation, which is common in such cases.

2. *It does not induce epididymitis* which only follows instrumentation which mechanically irritates the floor of the prostatic urethra.

3. *It does not induce urethral fever.* That rarely, *if ever*, follows instrumentation or operation below the deep perineal fascia, though further observations on that point are admitted to be desirable.

4. *It causes less pain, and no unnecessary pain.* (See Dr. Weiss' article on the above subject in No. 25 of THE RECORD, for December, 1884.)

Its advantage over a straight instrument is: *Facility of introduction* when the disease is *at* the bulb of the urethra. I have always used a straight sound for the penile urethra, and prefer it, and only pass it through the diseased part; but for disease *at* the bulb, a conical sound *must* pass through the triangular ligament. Here the sound proposed passes as readily as a full curved one, and a straight instrument is here with difficulty passed through both stricture and ligament, even by an expert. Further, the curved part is so short, that, in the penile urethra, where a straight instrument is preferred, this sound answers the purpose about as well, and very much better than one with the full curve. I have a set of eight instruments—every third number of the French scale, from fifteen to thirty-six, inclusive, which were made for me by Tiemann & Co. It is not claimed that the above presents any original points of doctrine, only that the instrument proposed better fulfils well-known indications.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 16, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
January 16, 1886..	0	8	38	3	20	81	7	0
Deaths.								
January 16, 1886	1	3	6	3	1	34	2	0

THE LACKAWANNA COUNTY MEDICAL SOCIETY.—Dr. M. J. Williams, of Scranton, Pa., writes: "In looking over my RECORD of the 26th ult. I saw a statement that, 'at a meeting of the Lackawanna County Medical Society, held December 8th, a telegram was received from Dr. J. V. Shoemaker, of Philadelphia, asking the society to rescind their resolution of last month condemning the action of the American Medical Association's new committee in excluding eminent physicians from the Congress. A motion to reconsider the resolution of last month was offered, and, after an animated discussion, was defeated.' How much truth there is in the above statement you will readily see from the following facts, gleaned from the transactions of the Lackawanna County Society for November and December, it being necessary to give both months in order that the subject may be better understood. At a very poorly attended meeting held November 10th, a resolution, condemning the action of the American Medical Association's new committee, was offered and championed by a comparatively new member; in fact, it being his first attendance as a regular member of the society, which received six votes out of a society numbering forty-five members, which truly cannot be considered a very strong expression of the society. Remember, those six included the maker of the resolution, and some that rarely attend the meetings of the society, and only in this case for the express purpose of passing this resolution. Having succeeded in carrying their motion, in order to make the matter more emphatic a second motion was made, to appoint a committee of three to draw up a set of resolutions condemning the action of the new committee of the American Medical Association, which was carried by the same vote as the first motion. But, alas, this proved to be the straw that broke the camel's back, as we learned from the subsequent meeting, held December 8, 1885. The meeting of December 8th being our regular monthly, as well as annual meeting for the election of officers for the ensuing year, was largely attended, there being twenty-nine members present. This proved to be the largest, and most representative meeting ever held of the Lackawanna County Medical Society. Not only was Scranton well represented, but there were present members, from Carbondale, Oliphant, Fleetville, and other towns, making it a truly representative meeting. At this meeting, when the condemnatory resolutions were presented, they were defeated by a vote of nineteen to ten; one of the ten not being a member, the vote really stands nineteen to nine, leaving no doubt as to the defeat of the resolutions. A motion was then made to reconsider the action of November, which was carried by the same vote that defeated the resolution. The President being asked to cast his vote, did so with the majority, making twenty votes for reconsideration. In relation to the telegram sent by Dr. J. V. Shoemaker, of Philadelphia, asking the society to rescind their action of November, I will say, the society never received any such telegram. I believe Dr. Throop received a message from Dr. Shoemaker, but as that was private it certainly did not belong to the society. In order that you may see some of the animosity that exists toward Dr. Shoemaker by one of the party that supported the November resolutions, allow me to give the expression in his own language, verbatim, 'I am glad to get a chance to sit on that Shoemaker.' I have submitted this communication to both the president and secretary of the Lackawanna County Medical Society, for their inspection, verification, and approbation, which they fully endorse by adding their official signature. In conclusion, allow me to say that the great majority of the members of the Lackawanna County Medical Society feel sorry that matters exist as they do in relation to the International Congress, but we also wish it understood that we feel loyal to the American Medical Association. Trusting you will pardon me for trespassing so much on your valuable space, expecting to be treated fairly, asking no more, nor expecting any less, I remain, very respectfully,

"M. J. WILLIAMS, M.D.
"B. H. THROOP, *Pres. L. M. Soc.*
"W. A. PAINE, *Sec'y Lack. Co. Med. Society.*"

ANOTHER NEW JOURNAL.—The *Chirurgicheski Vestnik*, "Surgical Courier," is the title of a new monthly journal which is announced to appear early in the present year in St. Petersburg. The editor is Mr. N. A. Velyaminoff.

TREATMENT OF SINGULTUS.—Pagenstecher reports a case of obstinate hiccough, which had resisted all the ordinary remedies, cured by an infusion of jaborandi leaves. The spasm ceased as soon as profuse sweating occurred.

THE MODE OF ACTION OF ANTIPYRIN.—Dr. Francesco Coppola, after excluding one by one all the causes which can effect a reduction of temperature in the animal organism, concludes that the antipyretic effect of this drug depends solely upon an increased dispersion of caloric, and not upon any central action.

AN INTERNATIONAL CONGRESS OF CRIMINAL ANTHROPOLOGY was held in Rome, in November, 1885. The members indulged in prolonged discussions upon the etiology, psychology, and pathological anatomy of crime. The sessions were presided over by Professors Lombroso and Terri.

DEATH IN A DENTIST'S CHAIR.—A Parisian dentist, M. Duchesne, recently had the misfortune to lose a patient to whom he had given an anæsthetic previous to the extraction of a tooth. The dentist, being neither a physician nor an *officer de santé*, was adjudged to have illegally administered the anæsthetic, and therefore to have been guilty of homicide. He escaped, however, with the payment of a fine of 3,600 francs. It would thus appear that homicide, as defined by the French courts, is a pretty cheap recreation after all.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 5 NEW YORK, JANUARY 30, 1886 Whole No. 795

Original Articles.

CATARRHAL INFLAMMATION OF THE UPPER AIR-TRACT.[1]

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IT has not been long since inflammation of the mucous tract of the head was simply known as a "gathering" in the head. Of late this has given way to a term less expressive of the trouble, namely, a "cold in the head." Gradually, however, as catarrhal affections of the ear and nose have received greater attention, their importance is more generally recognized, and it now seems time that the entire pneumatic tract of the head should be considered as a whole, in order that the etiology, pathology, and treatment of this region, or any of its parts, may be intelligently considered. It will be profitable to those who have not already given the subject particular attention, to glance at the pneumatic area of the head, as shown in the accompanying diagrammatic view of this region.[2]

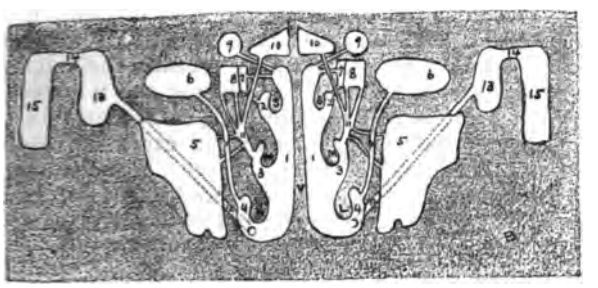

FIG. 1.—Diagram of Upper Respiratory Tract and its Air-chambers (omitting the pharyngeal vault). 1, 1, Nares; 2, 3, 4, superior, middle, and inferior meati; S, M, I, superior, middle, and inferior turbinated bones; 5, 5, antrum of Highmore; 6, 6, conjunctiva; 7, 7, posterior ethmoidal sinuses; 8, 8, anterior ethmoidal sinuses; 9, 9, sphenoidal sinuses; 10, 10, frontal sinuses; 11, 11, infundibulum; 12, 12, Eustachian tube; 13, 13, tympanum; 14, 14, mastoid antrum; 15, 15, mastoid sinuses.

Greater knowledge of the boundaries and extent of the tract may, however, be obtained by studying the prepared bones of the face and head. The osseous forefront in man will thus be seen to consist of a framework not unlike the bony structure in birds, where extreme lightness is assured without undue loss of strength—a conformation well adapted to the physiological requirements of the special-sense nerve distribution to the ear and nose.

The more important cavities of the head concerned in catarrhal inflammation are: 1, the tympanum, mastoid antrum, and cellules; 2, the turbinated bone interspaces; 3, the frontal sinuses; 4, the ethmoidal cells; 5, the antrum of the superior maxillary bone; 6, the sphenoidal sinuses. The large sockets for the lodgement of the eyes, the oro-pharynx, the pharyngeal vault, and the nasal passages, are also a part of this region. The various cavities have connecting sinuses, and the entire system is everywhere lined by mucous membrane.

It is manifest, then, that no one part of the upper air-tract is liable to catarrhal inflammation altogether independently of the others. Before alluding to causation in a broader sense, however, a passing allusion may be made in this connection to several important local anomalies and affections which sometimes stand in a causative relation to catarrh. Thus, deviations of the nasal system occur often enough to attract attention to their possible influence in causing catarrhal inflammation; where this interferes with free circulation of air and the escape of secretions, it may be not only causative of catarrh, but may also increase its dangers. The relations of deviations of the nasal septum to a high palatal arch are notably frequent, and from a study of a large number of subjects of this defect in catarrhal patients, I cannot believe that it has any other significance than that it seems to pertain to individuals with marked ovoidal conformation of the face, who generally have high-arched palates along with the lengthened facial measurement. Diligent search for an explanation of the high arch, in connection with the development of the teeth, was made of the writer's collection of plaster casts of the jaws, several hundred in number; but it would seem that the teeth have no influence in narrowing the arch. The height of the palatal arch has not, so far as I can discover, any significance in respect to a hereditary catarrhal tendency, nor does it bear an unvarying relation to deviations of the nasal system.

Hypertrophy of the tonsils, turbinated bodies, and the mucous membrane of the pharynx (adynoid vegetations), are very common results of catarrhal inflammation, and when present are to be considered as exercising an influence on the mucous tract in the neighborhood as well as remotely through their nervous connections; but while they require attention at the hands of the otologist, the subject would, if followed out in detail, carry me too far.

My own experience, in observing catarrhal inflammation of the head and elsewhere, leads me to rather regard it as the local manifestation of systemic and climatic influences, than, as some authorities intimate, the result of a purely catarrhal diathesis to the local manifestations of which treatment is mainly to be directed. I can but think it a fallacy to consider even a strong predisposition, manifesting itself in the guise of heredity in persons seldom free of catarrh, as demonstrating the purely local nature of the trouble.

In defining catarrhal inflammation it is well to distinguish between the deterioration in mucous surfaces which evinces the natural retrogradation consequent on gradual but sure decay, and the conditions that hasten the process, and, therefore, call for medical treatment. But while natural retrogression is in a measure irremedial, yet it is much less active in the strong and healthy. Catarrhal inflammation manifests itself very differently in different cases; thus the healthy and strong withstand its influences, while the weak and susceptible yield readily. The predisponents and excitants of catarrh give coloring to its manifestations; thus, urban and rural environments, respectively, with the diversity in the habits or occupation of individuals, together with climatic differences, produce very different effects, and it will be well to review their peculiarities separately.

Urban peculiarities.—In cities mental strain from overwork, worry, and dissipations of every kind—in a word, civic wear and tear—gives rise to nervous exhaustion, and consequently to mental and physical disability.

To the above should be added the ceaseless noise and the exceedingly deleterious dust and offensive and noxious odors with which metropolitan air is generally laden.

[1] Read before the Practitioners' Society, June, 1885.

[2] Drawn by Dr. Robert Barclay at the suggestion of the author.

Persons almost exclusively reared in cities are, moreover, deprived of the tone and vigor imparted by country life.

The mucous membrane of the air-passages in all persons is thus exposed to a variety of local excitants, but among clerks and operatives it is especially liable to become inflamed. Perhaps worse than all else is the pernicious system of overheating dwellings, hotels, schoolhouses, public resorts, factories, railway carriages, and sea-going vessels. Provision is thus made for the comfort of the ailing or indolent on the one hand, and the economical distribution of heat on the other, without due regard for the consequences on health. These unwholesome conditions are the outgrowth of luxurious civic life, the concentration of mercantile and manufacturing interests, the criminal neglect to keep streets and houses clean, and defective drainage. Thus while out-door air has its impurities at all seasons, it is scarcely possible during the winter to live in-doors without experiencing the ill-effects of overheated and impure air, the tendency of which is to deprive persons of the hardihood necessary to resist the unavoidable and natural vicissitudes of out-door life.

The liability to contract catarrhal affections from exposure of the feet, trunk, and head, in street-cars, to draughts of cold air in all seasons is very great.

Rural peculiarities.—Very different from the foregoing are the usual conditions of country life; here physical overwork is more likely to be met with as compared with mental, although worry and grief in various forms are not unknown. Among pioneers in new settlements homesickness often exists, the food-supply frequently is inadequate, and habitations damp, cold, and dark. The statement applies to laborers in public works, and often to men in the frontier military service. In older and improved country places, where extreme exposure is exceptional, catarrhal inflammation is not so severe, yet the causal influences and symptoms differ from those of the city. It may be said that the rural subject presents the sthenic type, with greater temperature disturbance, while in the city patient, if a subject of nervous exhaustion, it is more likely to assume an asthenic form.

The difference in the phenomena observed in what may, for comparison, be designated as two classes of catarrhal disease, serves perhaps to explain some apparent discrepancies in the conclusions arrived at by medical men, who have looked on the same disease from a different point of view, some regarding it as catarrhal inflammation, others as malarial fever.

But this is not so surprising, since catarrhal inflammation often exhibits symptoms commonly, though wrongly, ascribed to malaria; thus fever is often present, being ushered in with chills; there is a tendency to recurrence, malaise, depression of spirits, vertiginous symptoms, and the like. The subsequent debility and typhoidal symptoms, when present, are therefore liable to mislead the observer, especially if he be a believer in the production of typhoid fever from "malarial" influences. One should reflect here on the possibility of these symptoms being due to disturbance of the nervous system wholly.

Malaria has long been a convenient cloak for our ignorance in respect to the origin of disease. The writer recollects how the "bilious remittent" fever of the Southwest was attributed to this cause in his early experience; and an outbreak of so-called "typho-malarial" among the soldiers of his regiment while stationed in the Alleghanies, in 1861, occurring after some weeks' exposure in camp, especially to unaccustomed night air, was alleged to be due to this agency. The popular mind to-day gives credence to this mysterious influence, as it always has done for hundreds of years. Says Cooke, in a recent work on Virginia, speaking of the early settlers on the James River in 1607: "With July came the sultry dog-days of a southern summer, and the marshy banks of the river, sweltering in the sun, sweated a poisonous malaria which entered into the blood of the English. The whole colony was prostrated by a virulent epidemic." Thus, as at tide-water two hundred and fifty-four years before, was the origin of a disease assigned to the same causation in the mountains in 1861. In both of the instances named men were suddenly transferred from civil life to an out-door existence, in which little care was taken to properly habituate themselves; sometimes they were idle and inactive for weeks and months, until some emergency called forth their utmost exertions, leaving many greatly exhausted. As a class they were without self-restrainf in respect to both food and hygiene. Were not physical influences manifestly the cause of whatever affection these people had, rather than mythical ones? A gentleman competent to give an intelligent opinion, and who has long practised medicine in tropical South America, once said to the writer, in discussing this subject, that it was his belief that their severe fevers might justly be regarded as an aggravated form of catarrhal inflammation.

The confounding of symptoms alleged to arise from so-called malarial poisoning with catarrhal inflammation (inclusive of nervous phenomena so often present) seems to have for its origin the belief that a malignant miasm exists in the emanations arising from decaying animal or vegetable matter, sewer-gas, stagnant water, etc., or is disseminated by the pollen or effluvium of plants. It is to be regretted that the accumulated literature of this subject, embracing the labors of writers for many centuries, cannot by incontestable evidence establish these tenets; proof of the existence of malarial poison, according to a contemporary authority, lies mainly in the alleged fact that the sickness it causes yields to the administration of quinine.

In accepting the miasmatic origin of disease, it has been found convenient to explain its morbific influence through zymotic action, and more recently the microbic theory has been advanced; but whether the "fermentation" of zymosis and the presence of bacteria in the blood are not a product rather than a cause of disease, may well be believed.

The neglect of cleanliness, or, more broadly, of sanitation, is fraught with much evil; but while fully recognizing the danger to health from decomposition of animal and vegetable matter, would not a healthier sanitation prevail were the popular "fetich of the sewer," to which such quantities of quinine are sacrificed, put aside? How often has house-drainage been laid under unjust suspicion in pursuit of this imaginary evil; the wall-paper of the sick-room even torn down in the search after the sewer-pipe has been overhauled, or the house abandoned entirely? How often have worry, dissipation, and exposure, lowering the tone of the nervous system, overtaxing the stomach with alcoholic drinks and indigestible food taken at all hours, breathing the poisonous air of the ball-room, theatre, and the like—probably continued for a "season"—been the cause of sickness unjustly attributed to defective drainage?

It may be well to consider the causes of catarrh of the head somewhat broadly, since the belief has taken deep hold on the minds of many that the malady is purely local; when the influences lying behind local manifestations are thus recognized, it is believed a more rational treatment will prevail. Among the causes are:

Meteorological influences. — Lightning stroke, sunstroke, and congelation are not, of course, in the ordinary sense, to be considered as causal; it is the less or entirely inappreciable, and hence unexpected, variations in meteorological conditions that interest us, more especially because they are liable to be underestimated or overlooked entirely. These changes consist in variations in thermal, electrical, and aqueous vapor tension, inclusive, consequently, of the relative amount of sunlight, oxygen, ozone, etc. The most important of these, and doubtless influencing them all in greater or less degree, is the heat radiated from the sun. Animal and vegetable life upon the earth's crust derive their vitality

from this source. It is the struggle against the undue loss of this heat through radiation from the earth's surface, on the one hand, and the avoidance of an excessive supply on the other hand, in order that a healthful equilibrium may be maintained, that concerns the sanitarian. Circumstances have placed man alike in warm and cold climates, as well as in the more favored temperate latitudes; the latter is most favorable, since out-door life may be enjoyed to a greater extent than elsewhere. It behooves one, therefore, in considering the causes of catarrhal inflammation, to take into count weather vicissitudes due to natural causes. A study of meteorological physics, so far as understood, will make known the natural laws regulating heat, electrical and aqueous vapor tension, of the movements of wind and water (trade and anti-trade winds and ocean currents); the proportion of oxygen, ozone, etc., under varying conditions.

The functions of life for the most part must be carried on in an environment of ever-changing physical forces. We may be said to live amidst ceaseless aërial cyclonic movements of greater or less energy, since the air is ever *in motion*; these storms—sometimes one following the other, sometimes moving along in an irregular manner together—traverse to a greater or less extent the entire continent, disturbing a varying area of territory. As the cyclone constituting the ordinary thunder-storm advances, there is always a higher temperature in front than in the rear—"the warm air in front," according to Mr. Abercromby (*Nature*, 1885), "having a peculiar, close, muggy character. The cold air in the rear, on the contrary, has a peculiarly exhilarating feeling." These conditions are quite independent of the thermometrical condition.

The following puzzling experience is illustrative of the effect of these influences; it occurred in the writer's early experience in practice. The patient was a man, aged forty-five, whose general health was fair; on entering the sick-room I found him gasping for breath. The heart was beating tumultuously, and his nervousness was painful to witness. He had been attacked with these symptoms on the approach of a thunder-storm which was then prevailing. His wife, who showed no alarm, informed me that he always suffered in this manner during storms, and that recovery was always speedy and complete as soon as the weather cleared.

Sudden and extreme changes in altitude also give rise to peculiar disturbances; persons on arriving in this manner, by rail, at an elevation of some sixteen thousand feet in the Andes, are liable to experience very disagreeable sensations, due to the sudden withdrawal of atmospheric tension. Besides the cardiac failure and pulmonary derangement produced by the transition, congestion and anæsthesia of the skin, cramps, and other nervous disturbances are experienced, known in South America as aire. Similar to phenomena occurring in very much *rarefied* air are those witnessed in persons on coming out of the highly *condensed* air of submarine caissons; in either the sudden disturbance of equilibrium of density causes undue nervous strain.

It is, however, the much more slight variations associated with storm movements that probably give rise to the nervousness experienced by certain individuals. The writer has been informed by a number of his patients that they cannot long endure a sea side residence in summer, even in so agreeable a place as Newport, R. I., on account of the extreme nervousness apparently produced by an environment affected by wind that has swept rapidly over the ocean for a long distance. Besides the general nervousness experienced, there was irresistible somnolency at one time, and at another a total inability to obtain sleep.

I am not aware of any explanation of these phenomena being given, but I suspect that when the nervous system is impaired by exhaustion, its liability to undue excitation or depression by the causes alluded to is increased.

Thermal changes are yet more important than either electrical or barometrical. The rapid liberation of heat from the body of the strong generally arouses healthful activity, but it depresses the weak; on the other hand, the acquisition of a relatively great amount of heat is well borne by the former, while prostrating the latter.

Prolonged exertion in extreme summer heat gives rise to nervous prostration or irritability; this is especially liable to occur during the "dog-days" of late summer, when even slight exercise is fatiguing and attended with perspiration. A draught of air is then, according to the Spaniards, *una facada*, a knife-stab, so dangerous is it regarded. But, as would be expected, exposure to night air when the sun's heat is withdrawn, is particularly dangerous to the susceptible. It is then that *sudden* cooling off, especially in damp clothing, and while the body is overheated, that catarrhal inflammation may occur.

It was long ago shown by Dr. Wells, that when the sun has set the earth's surface becomes quickly cooled by radiation, and the air immediately above becoming too cold to retain its aqueous vapor in a state of suspension, the moisture is therefore rapidly deposited upon the earth in the form of dew or frost, according to the lowness of temperature. It will be observed that dampness often shows itself upon the turf sometimes before the sun has sunk, and from this on the dampness and chilliness of the under stratum of air increases more and more up to a certain point. The intelligent class of natives of the tropics practise much caution to avoid the deleterious effects of this exposure, but notwithstanding their prudence, catarrhal affections of a severe character prevail. This result is less surprising, however, when the effect of prolonged summer heat in producing apathy and inertia—totally preventing exercise, and thus increasing susceptibility—is considered.

Night air at sea is likewise to be avoided, since even the general bracing effect of ocean air by no means insures immunity from catarrhal trouble.

The more decided catarrhal attacks are, of course, well known to be ushered in by chill, with more or less nervous disturbance; sometimes a local manifestation also occurs, as torticollis or a "crick" in some other region. Usually, however, we have to consider the influence of slight impressions only on the nervous system; these have been distinguished as a "shock" or a "stab," although but a slight immediate effect is experienced. In the end, however, very decided phenomena are produced through the vaso-motor system of nerves. A susceptible person may not remain with uncovered head for many minutes in the dew-laden tropical night air without sneezing or even contracting rhinitis. Greater or long-continued exposure, especially in run-down persons, may be followed by ague, dengue, neuralgia, or rheumatism, according to the patient's idiosyncrasy or susceptibility. Of course, the hardy native "of the soil," so to speak, becomes acclimated to vicissitudes by long residence, and even the languid and more unstrung resident acquires immunity not to be enjoyed by strangers.

Thermal variations, otherwise inappreciable, visibly affect the system when run down; thus, in a six-days' summer voyage from Suez to Aden, says Medical Director Delavan Bloodgood, U. S. N., in a letter to the writer, the temperature was seldom lower than 100° Fahrenheit, day or night; on entering the Gulf of Aden, however, a breeze encountered, only a few degrees lower, produced such a chilling sensation that the passengers found an increase of clothing absolutely necessary. My informant recalls now, after many years, the chattering of his teeth on that occasion, and the discomfort lasted for several hours. It is not unusual under these circumstances to experience an immense increase in urinary secretion, andt he ship's surgeon in consequence always receives the visits of a large number of surprised, if not alarmed, passengers. Experiences of practical interest bearing on this point are common enough to travellers. Thus Stanley found, after travelling for some considerable time in the relaxing climate of equatorial Africa, that warm clothing,

including an ulster, was comfortable in July, when the minimum temperature was 63° F.; and the draughts of wind sweeping down the gorges, though not decreasing temperature thermometrically, added greatly to the feeling of "miserable chilliness." The catarrhal manifestations which seemed to prevail on the Congo under those circumstances were of the gastric variety. Mr. Crawford, a gentleman engaged in selecting a railway route across the Pampas during the hot months, notes the rapid changes in temperature on La Plata; a sudden fall from great heat to 26° F., freezing ice in the tents on one occasion, and at Mercedes on another, after an intensely cold night, the thermometer registering 34° F., temperature rose to 107° F. in the shade at 4.30 P.M.

Forbes, while travelling in the Eastern Archipelago, found the natives in Sumatra going about, and even sleeping, in all weathers, nearly naked, and enjoying good health; but almost at once succumbing to the low temperature of mountain heights, often actually dying before they could descend. Mr. Forbes, in his admirable work "The Wanderings of a Naturalist in the Eastern Archipelago," states that at an elevation of 10,562 feet up the Dempo, the midday sun was almost unendurably hot, the hands, face, and neck being scorched the moment they came into the sunshine, though a cold wind was blowing and the thermometer registered only 63° F. When the sun began to decline, however, the temperature fell rapidly; at sunset it was 47.2° F., and for comfort he was obliged to put on triple suits of clothes.

"When at four o'clock next morning," says Mr. Forbes, "I went out into the Sawah, though the thermometer registered 47° F. (the lowest reading of the night was 42° F.), the air, which was perfectly still—its silence, indeed, almost overwhelming—felt absolutely free from rawness, in marked contrast to what I had experienced at sunset under almost the same reading of the thermometer."

Mental exhaustion alone, without open-air exposure, is very often a cause of head catarrh; yet may one sleep in a cold airy apartment, when not overheated, without risk, and patients with high temperature, unless sweating excessively, get on best with such surroundings.

Causative influences like the foregoing finally prevent healthful equipoise between the different organs, and, in consequence of this, elimination is defective. Along with defective nutrition a perverted state of the nervous system obtains: its tension on the one hand is depressed, or on the other hand increased. At either extreme, or in vibrating between them, peculiar phenomena present themselves; thus periodical disturbances influencing temperature may characterize catarrhal fever, or they may manifest themselves as "nervous explosions" at irregular intervals. Certain subjects become known as "nervous," and are liable to uncontrollable sighing, weeping, outbursts of ill-temper, and other emotional manifestations. Others thus illy-balanced indulge inordinately in stimulants, or food, or sexual excess. It is a notable fact that such nervous persons are extremely subject to catarrhal inflammation, which is liable to take on nervous characteristics. Thus, with bronchitis appears the suffocating spasm of asthma, and with rhinitis the violent irritation and sneezing of hay-fever. Catarrhal neuroses, once acquired by the more susceptible, increase by long continuance to a degree never experienced by less sensitive persons. These local disturbances of the mucous surface are comparable to neuroses of the skin, as zoster and pruritus, where cutaneous burning and itching are caused by reflex action.

Where the asthmatic habit exists, meteorological disturbances, excessive physical exertion, undue mental excitement or depression, cold winds and dust, excite spasm and cough. The sight of dust, even without inhaling it, will excite spasmodic cough—indeed, almost every asthmatic has his *bête noire*, which may explain the whimsical origin of asthmatic spasm in some cases.

In the disordered olfaction of hay or rose fever, the odor of the rose and other objects is compared to the irritation of pepper applied to the Schneiderian membrane, and as in asthma, various dusts and odors cause distress.

Head catarrh often begins very early in life, and continues a long time before the subject is brought to the physician's notice. In fact, it is usually neglected until marked deafness has occurred. The neglect of nasal catarrh is often due to the indifference to the slight discomfort attending impairment of smell, since at best this function is less perfect from disuse or want of cultivation than that of the other special senses. In a few instances I found the sense of smell most acute, resembling that of many of the lower animals, where its importance in the economy is scarcely second to hearing and seeing.

The rhinitis of hay and rose fever is often found to stand in a causal relation to otitis, affecting the ears either by extension of the inflammatory process from the naso-pharynx up along the Eustachian tube to the tympanum, or through reflex sympathy of the nerves.

Sympathy of the nerves.—In certain conditions of the system the nerves become exceedingly impressible to excitation; thus the irritation produced by the introduction of a speculum or a probe into the external auditory canal will excite coughing, or a desire to swallow, and various other sensations in the nose, pharynx, or larynx. Many persons can locate the seat of local irritation thus

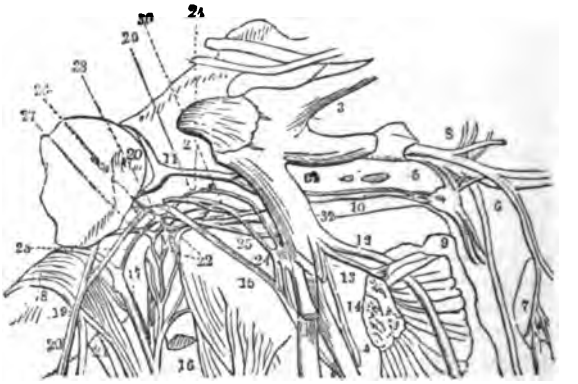

FIG. 2.—Diagram of the Tympanic Plexus (Rüdinger). 1, Oculo-motor nerve; 2, trigeminus nerve, with the Gasserian ganglion; 3, first branch of the trigeminus nerve; 4, second branch; 5, entrance of the same into the spheno-palatine fossa; 6 and 7, superior maxillary nerve; 8, spheno-ethmoidal nerve; 9, descending palatine nerve; 10, Vidian nerve; 11, large superior petrosal nerve; 12, buccinator nerve; 13 and 14, pteryguid nerve; 15, chorda tympani nerve; 16, carotid plexus of the sympathetic; 17, petrosal ganglion of the glosso-pharyngeal nerve; 18, 19, and 21, vagus, accessory nerve of Willis, and hypoglossus; 20, facial nerve; 22, nervali carotico-tympanici; 23, tympanic, or Jacobson's nerve; 24, small superficial petrosal nerve; 25, nerve of the tensor tympani; 26, tympanic plexus; 27, branch for the oval window; 28, branch for the round window; 29, large, deep-seated petrosal nerve; 30, branch for the Eustachian tube; 31, division of the Vidian nerve into its two branches; 32, anastomosis of fasciculus of the Vidian nerve.

propagated in the ear in some particular spot in these parts, the sensation being described as "burning," "tickling," and the like. *There is very often an increase of the secretion of mucus in the spot thus irritated.* When the throat is in a diseased condition, the reverse of the above often takes place, and the ear may then become affected. When nerve-tension has been long disturbed in this way, reflex phenomena are easily excited; continuous aural, nasal, or dental irritation, even if imperceptible, may affect one part or another, until nutritive (trophic) changes are brought about; slowly progressive aural catarrh finally producing deafness before the patient himself is aware of any morbid action going on. The tissues involved in catarrhal inflammation of the middle ear "consist of a membrane which performs the double duty of mucous membrane and periosteum. The sensitiveness of this structure is extremely great, for it is not only richly supplied with blood-vessels, but also wonderfully well provided with sensory nerves. These latter compose the tympanic plexus, a diagram of which is here shown. This anastomosis derives supplies from sources most extensive; thus by means of branches from the otic ganglion the inferior maxillary nerve is brought into intimate relations with it, and the petrosal ganglion of the glosso-

pharyngeal nerve supplies the tympanic branch, or Jacobson's nerve, which constitutes a large portion of this anastomosis. The carotid plexus of the sympathetic sends a branch to the glosso-pharyngeal, and thus establishes a communication between the ear and the superior cervical ganglion of the sympathetic nerve. Through Meckel's ganglion, by means of the Vidian nerve, the superior maxillary of the fifth pair of nerves also is connected with the tympanic system. Besides these there are other connections which may be seen by consulting the diagram."[1]

This extensive nervous connection brings the ear into sympathetic relationship with disturbances in various parts, as the brain, stomach, heart, genito-urinary organs, and cutaneous surface, as well as with other parts already mentioned.

Catarrhal affections of the ear.—From an etiological point of view catarrhal affections of the upper air-tract should be considered as a whole, although the ear, olfactory region, and the various cavities and sinuses of the head may become independently affected. Catarrhal affections of the ear are most frequently met with in the chronic form and in connection with continuous head catarrh; recurrent exasperations ("colds") frequently marking a more or less rapid decrease in hearing power. One ear, usually the left, is found to be first affected, and in the end most impaired.

Aural catarrh, especially the subacute variety, beginning as early as the first month of infantile life, may give rise to total deafness, the proliferation of connective tissue about the articular surfaces of the ossicles producing fixation. Acute purulent inflammation at this period, however, usually leaves the hearing less affected, unless the process become subacute or chronic. The purulent variety may prove fatal; unsuspected ear disease, in fact, is frequently shown, by post mortem examination, to have been the cause of death in young infants, when symptoms of brain disturbance only were recognized during life.

The relations of dentition to aural trouble are very important in infancy; before puberty this process is most active, causing often great nervousness, especially in girls overworked in schools or shops. The catarrhal fever, to which this class of persons is subject, may simulate typhoid fever, for which it has been mistaken.

Adolescents sometimes get their wisdom-teeth with difficulty—indeed they are often not cut until the patient is thirty years or more of age. In consequence of the aural irritation excited through nervous sympathy in such cases, subacute and chronic catarrh of the middle ear, giving rise to extreme deafness, is of frequent occurrence; deafness may come on so gradually that the patient is unaware of its existence until its progress has been marked. Dentition is thus liable to be an important factor in catarrh of the head, and should never be overlooked in treatment. The retention of pulpless teeth should be avoided, especially in persons wanting in nervous tone.

Overworked shop-girls, living under faulty hygienic conditions, having dental irritation, sexual disturbances, and the like, are extremely susceptible to aural catarrh, giving rise to extreme deafness.

Children's catarrh (acute) of the upper air-tract may be ushered in with chill, followed by fever and more or less local irritation, manifested by sneezing, a down-pour of fluid from the nose, and tinnitus aurium as the ear becomes invaded. The fluid profusely secreted by the conjunctival mucous membrane, and that flowing from the anterior nares, often excoriates the cheeks and lips, and later on there is frequently an eczematous eruption at the seat of irritation. The tympanal secretion is sometimes so great that the drumhead gives way and allows the pent-up fluid to escape. The aural discharge also may be the cause of dermatitis, etc., about the external auditory canal and auricle. At first the secretion from the nose and ears may be tinged with blood, but in many cases it soon becomes mucoid, bland, and ropy, and there is a tendency toward a regressive course and spontaneous recovery. In some cases, however, there is a greater tendency to purulency and chronicity; this is especially liable to occur in cachectic, run-down children having chronic head catarrh, difficult dentition, etc.

When serum only, or thin mucus, is poured out into the middle ear, it is frequently carried off into the throat *via* the Eustachian tube, but where the swelling closes the tube, or the mucus is too thick to escape, an accumulation soon takes place, distending the drum-head, and giving rise to earache. When the drum-head has been thickened, and does not give way readily, the distress may become almost unendurable. In the more severe examples of acute aural catarrh the principal seat of the trouble will be found in the attic of the tympanum, where swelling of the mucous lining prevents drainage either down into the atrium of the tympanum or through the Eustachian tube, the pent-up fluids seeking an outlet through the membrana flaccida, which often becomes greatly distended. The secretions, if not liberated, finally burrow along underneath the lining of the superior wall of the external auditory canal, forming a sac of greater or less size, which sometimes entirely conceals the *membrana tympani*. At the same time the *antrum mastoideum* and adjacent cellules are liable to invasion, as well as the periosteum externally.

Subacute aural catarrh, causing great deafness, sometimes occurs consecutive to scarlet fever or measles in children; secretion from the tympanal mucous membrane may be slight, the drum-head may remain intact, and deafness only suspected when the child is found to be backward in learning to talk.

While persons in health quickly rally from head catarrhs, experiencing no harmful result, in delicate children and broken-down and decrepit subjects the disease is liable to assume a chronic form; where the ear is thus affected, recurrent exacerbations are liable to be followed by a decrease in hearing. Concurrent gout, rheumatism, scrofula, consumption, or other constitutional disease increases the gravity of the trouble, and in the two affections last named, as well as in subjects of diabetes mellitus, the tendency to destructive purulent otitis media, with rapid disintegration of the *membrana tympani*, and profuse otorrhœa is marked. In rheumatic and gouty catarrh, however, there is seldom any great amount of pain, the effusion is often serous in character, and no tendency to suppuration exists, the principal seat of inflammation being confined to the attic, involving to some extent the membrana flaccida and other neighboring parts rather than the atrium. These cases are characterized by chronicity, and sometimes a collection of straw-colored serum can be seen behind the drum-head, where it may remain for a long time, displaying air-bubbles when the drum is inflated.

In scrofulo-syphilitic subjects the deeper structures of the ear and nose, including sometimes even the osseous tissue, are liable to be affected; and in syphilitic catarrh, exacerbations are sometimes attended with very pronounced and sudden deafness.

Secretion in catarrhal inflammation is generally characteristic; thus the outpour of fluid from the inflamed mucous membrane of the nose in children, after the feverish stage at the onset, is profuse, as it also is in recurrent rhinitis in adults, notably in hay fever. Incrustations of inspissated muco-pus in the caverns of the nose, especially where a deviation in the septum exists, are seldom seen before puberty; but in chronic catarrh in cachectic persons, or in advanced life, where the mucous membrane enveloping the erectile tissue of the nose has become atrophied, evaporation of the scanty secretion leaves inspissated crusts, which soon become fetid. There is an intermediate stage when mucous secretions become very tough on drying, and are worked out with

[1] Vide author's paper, Earache in Children, MEDICAL RECORD, May, 1883.

difficulty. Secretion may consist of mucus principally, or it may become sero-mucous, sero-sanguinolent, muco-purulent, purulent, or otherwise combined, according to circumstances.

Inflammation of the mucous membrane of the tympanum, mastoid antrum, or pneumatic cellules of the temporal bone, take on secretory processes similar to the above; the presence of tough mucus affords an explanation of deafness through interference with the movements of the transmitting mechanism; and where sudden and extreme deafness takes place, as in some forms of non-purulent aural catarrh, especially in syphilitic subjects, there is probably infiltration of a particularly adhesive nature, causing rapid fixation of the ossicles. The most marked non-syphilitic examples I have seen were in persons residing in the tropics. Two cases among the latter are particularly instructive. They were non-syphilitic.

Case I.—A gentleman, aged forty-five years, came to me a year ago with the following history: He had resided in Rio, Brazil, some thirteen years altogether, having taken in the meantime two vacations of eighteen months each, during which he visited Europe and this country. During his residence in the tropics, he was for some time under severe mental strain, but passing the warm season in the mountains of Petropolis, the summer residence of the court, at an elevation of some three thousand feet. While so run down, the extreme and sudden variations in temperature were very trying; succeeding to intensely hot and dry days, were damp nights some 20° Fahrenheit cooler. Not having learned of the perils of *el sereno*, the fatal night air, he was less prudent, in respect to exposure after sundown, than the natives, who are careful to protect themselves with warmer clothing, and avoid uncovering the head needlessly for a moment even. He finally contracted severe head catarrh. There was, at first, a sense of great heat and discomfort in the nose, perversion of the sense of smell, especially on first rising in the morning, when everything had the odor of burnt meat. There soon was a profuse down-pour of fluid from the head, which was mixed with blood. On the frontal sinuses and other cavities becoming invaded, the head felt "hot and dry." These symptoms continued for some time. The ears were early involved, and as the disease progressed he became *rapidly very deaf*. Distressing tinnitus accompanied the other symptoms. He was for a few days so deaf as to be unable to converse, but before long some improvement took place; there was no marked improvement in the head catarrh, however, until he left the tropics; and when I saw him subsequently, he could converse with difficulty, in an ordinary tone of voice, at a distance of six or eight feet. Under the favorable influences of the climate in New York, he improved very much under treatment.

The next case is similar to the above.

Case II.—An English gentleman, thirty-five years of age, residing in Venezuela. This patient, a person very much over-worked, in April, 1884, made a three weeks' journey into the interior of the country, during which he was much exposed to an almost continuous rain-storm. He escaped the prevailing fever as he had done hitherto, during twelve years' residence in tropical South America. During his stay with a friend in the country, he sat one morning after breakfast in the corridor of the house *without any coat*. After dinner, the same day, while engaged in conversation he *suddenly* had a most profuse flow of fluid from both nostrils and the eyes, which lasted for some hours. The attack was severe and was accompanied with much coughing. It was feared that this would prove to be a precursor of the "fever" of the country, but the more disagreeable symptoms passed off by the next morning. Head catarrh, however, continued, the tympanum became affected, and there was almost total deafness. A disagreeable sense of fulness in the head, and dryness of the upper air-tract characterized the course of the disease and, in fact, still remained when the writer was consulted.

Treatment.—In the treatment of catarrhal inflammation of any particular part of the upper air-tract, attention should be directed to the condition of every other part; aural catarrh, for example, is not unlikely to be associated with rhinitis. Where indigestion and faulty assimilation are provocative of rheumatism or gout, etc., or, in fact, where any disease may stand in the relation of predisponent or excitant, these factors must not be overlooked, and when the patient's interests require it the valuable aid of other practitioners may be sought.

In no affection is attention to hygiene so important etiologically, and hence the questions of food, clothing, bathing, exercise, and ventilation should receive prompt attention. This will be found a most difficult part of the physician's task, especially as regards children and invalids, since the convenience and comfort of parents and nurses is too often consulted to the detriment of the patient; thus are outings curtailed or prolonged unduly, and heating and ventilation arranged to suit the well rather than the ailing. Open air exercise daily should be insisted upon as far as children are concerned, and when inclement weather prevents going out the nursery may be converted, for the time being, into an open air play-ground by throwing open windows and doors, children (or invalids), being suitably clad. Too often is cloudy, threatening weather an excuse for neglecting exercise.

Out-door life for invalids should be regulated, both as regards preventive and curative treatment, by the patient's tolerance for exercise without undue fatigue.

Protracted in-door life during the dark, damp, cold, short days of winter tends to very much lower the tone of the system; it is after this depressing experience, and on the return of milder weather, that incautious exposure causes catarrhal troubles. Delicate persons, especially when over-heated, should avoid exposure when rapid evaporation of snow and ice occurs during a winter "thaw," since even slight (and usually unconscious) chilling of the body causes mischief then rather than the succeeding cold "snap," the effect of which is to tone up the system. It is said that voyagers returning from high latitudes are extremely susceptible to catarrhal affections on returning suddenly to temperate regions.

Health requires that exercise be taken in very cold weather, provided the proper quantity of food is consumed. Now, the animal heat derived from food with difficulty compensates for the immense quantity lost through the escape of heat into space by radiation. The problem of maintaining an equilibrium between these two diverse processes is therefore difficult of practical solution; thus exercise is impeded in a measure proportionately to the means employed in retaining bodily heat by means of clothing, etc. If the escape of heat is prevented by non-conducting clothing, impervious rubber-cloth, the skins of fur-bearing animals, and the like, escape of insensible perspiration through evaporation from the body is also interfered with, and the clothing becomes saturated with moisture—an exceedingly disagreeable and unhealthful condition. The very general introduction of rubber-cloth and fur garments in our temperate climate is to be greatly deplored, since the bodily temperature is too much increased by their use. In regard to the maintenance of a proper bodily temperature, it may be said that everyone must, in a measure, regulate this by the changes in wrappings suggested by his own sensitiveness, rather than the readings of the thermometer.

The advantages of travel and change of climate have long been recognized, and it is particularly notable that where catarrhal neuroses affect residents of cities, immunity may be enjoyed during a sojourn in the country, and *vice versa*; asthmatics are even permanently cured in this way. The most striking effects, perhaps, follow

changes to pure sea or mountain air, but the writer has known of a number of instances of asthmatics being cured on leaving the great interior valley of the Mississippi to reside in New York City.

The inconsiderate advice sometimes given to patients of delicate constitution while ill, to hurry away from accustomed comforts to some favorite region, may prove exceedingly hurtful. The endurance of patients differs greatly; one may become robust in the Adirondacks, while another cannot endure the exposure of camping out. Patients, therefore, should be well informed in respect to the requirements of the particular spot to which they are sent; for example, they will find that natives of the tropics require thick woollen clothing during their short winter, although the thermometer may register 60° F. only, while those of high latitudes, where the sun's rays during their brief summer are exceedingly oppressive at 60° F., *per contra*, may swim in the ice-cold water with much pleasure. The native Esquimo through much exposure become inured to the dreadful Arctic winter, *even suffering with heat when the temperature rises above the freezing point;* cold weather and exposure, says Schley, in the narrative of the Greely rescue expedition, have no terror for them.

In the tropics, sensitiveness to sudden exposure to air a few degrees below the customary temperature, has been shown to give rise to chilliness; on the other hand, sensitiveness to moderate heat gives rise to equally painful sensations to persons long inured to Arctic cold; thus a scalding sensation is imparted to the skin by the contact of the warm blood flowing from the whale and walrus when slaughtered.

For the greater number it would seem that a knowledge of their own environment, together with a study of the conditions best suited to their needs, is of much greater importance than the discovery of sanitaria, at best available to but few. Indeed, it is useless to seek a perfect climate where catarrh is not found; we can only recommend the best average climate suited to a particular case. Patients from the North find needed rest in the languid life of the South, while Southerners are benefited by the bracing air of the North. Moreover, it will be found by experience that favorite resorts have their off-seasons; for example, Nassau, usually the most charming of winter climates, was during the past winter (1884–85) so disagreeable from the cold and humidity, that many of our patients sent there for the winter were compelled to leave before the season was over. If the invalid go to tropical climes, aqueous vapor is liable to be found in excess the year round, the humidity of the summer interfering with healthful escape of insensible perspiration, and that of the winter conducting away bodily heat too rapidly.

The influence of aqueous vapor in the air is important: Tyndall, says Stewart (*Nature*, vol. ii., 1885), has called attention to the fact, that aqueous vapor being transparent for rays of high temperature, does not stop but a small portion of those which come to us from the sun; but being comparatively opaque for rays of low temperature, it stops the radiation into space from the surface of the earth. In other words, it acts as a cloud in preventing refrigeration which accompanies dew. In regions, however, where the air is very dry, the nights are intensely cold, owing to the uncompensated radiation into space. In Central Asia and in South America, as cited by the writer, water is often frozen after the sun is below the horizon.

The treatment of catarrh of the upper air-tract implies the management, to some extent, of all the troubles about the head, since nearly every affection of the ears, eyes, nose, mouth, and nervous system of this region is generally more or less associated with a departure from the healthful condition of the mucous membrane of this tract. There is too often a demand for an exclusively local treatment, however harsh, which, in attacking a local manifestation, promises to strike down the evil, rather than a rational method which may remove the cause. It is desirable, of course, to get rid of the results of disease, but this will not always affect the cause; in other words, the root of the evil cannot be reached by local treatment alone.

At the onset of acute catarrhal inflammation of the head, local applications, consisting of weak alkaline solutions in water as hot as can be comfortably borne, are soothing, and answer to cleanse the accessible parts when secretions require removal by mechanical means. More rarely are sedative applications required, but where the tonsillar crypts are the seat of chronic inflammation, they may be touched with solutions of nitrate of silver, tinct. iodine, etc. In the chronic form of catarrh, beyond cleanliness, there is but little need of local applications; astringents, however, are sometimes beneficial, especially weak solutions of nitrate of silver, sulphate of zinc, acetate of lead, and the like, or vegetable astringents. These may be applied by means of atomizing apparatus, brushes, or cotton-wool mops; the latter are convenient and have the advantage of being cleanly. Solutions can also be introduced with a syringe, or sniffed up from the hand.

The nasal douche is a most efficacious means of cleansing the naso-pharynx or of applying medicated washes, but it is by far too treacherous to be safely employed by the patient himself. Even sniffing up solutions, or the insufflation of powders, are to some degree open to the same objection, namely: the danger of passing fluids, etc., up through the Eustachian tube into the ear and causing inflammation.

As a rule, I have not often found the nasal mucous membrane to be improved by the application of irritants, which ordinarily give rise to sneezing and coughing when accidentally inhaled, whether employed in dry or humid form, and I believe their indiscriminate use is to be deprecated. The heroic methods often resorted to in treating irremediable, but yet persistent, patients, likewise are usually unjustifiable; the employment of the galvano-cautery, wire snare, écraseur, or strong acids for the removal of structures in the nasal region, has brought out some very energetic methods, which, if safe and proper in skilful hands, are certainly liable to much abuse, and are known to have done positive injury to the nose, as well as set up serious trouble in the ear.

Hypertrophied tonsils, whether obstructing respiration by their size or interfering with the action of the muscles of the upper respiratory tract, should generally be removed.

The treatment of rhinitis, which is so important a feature of hay and rose fever, may often, with advantage, include brushing or spraying the irritated or inflamed turbinated bodies once or more daily with a two to four per cent. solution of cocaine. Tolerance, which sooner or later occurs, lessens its effect finally, and in some cases it does no good.

Atropine ointment, rubbed over the bridge of the nose and the frontal sinuses, often affords great relief; care should be taken, however, to prevent its entrance into the eyes.

Catarrh of the head, especially the acute rhinitis of hay and rose fever, which is most liable to come on in late summer or in the beginning of autumn, seems to depend on the excitability of the nervous system frequently following protracted hot weather, and the neglect of exercise, and it rapidly disappears again under the toning-up influence of cold weather. Since worry and depression of spirits are to be regarded as predisponents in the nervous catarrhs, it is well to remember the advantages of pleasurable excitement, which in asthmatics dispel paroxysms like magic. And, moreover, the "habit" sometimes disappears altogether after the more excitable period of life—the patient, so to speak, having "outgrown" the trouble.

The mucous membrane constituting the inner lining, as compared with the dermic layer forming the outer

covering of the body, offers but little resistance to impressions through the nervous system; inflammation of either, however, often gives rise to sympathetic fever. Perversion of the sexual sense may, in one instance, cause an abundant display of acne upon the skin of the face, or it may expend itself, so to speak, upon the mucous membrane of the head. Sometimes both dermic and mucous surfaces are affected at the same time.

In the internal treatment of acute catarrh of the head the various forms of mercury are most beneficial, especially in the affluent stage; indeed, so long as there is no tendency to suppuration, but rather an inclination to a regressive course, mercury may be used throughout. There is, however, a choice in the form of this drug; one may use hydrargyrum, rubbed up with sugar of milk, which is somewhat similar to quicksilver treated with chalk, only in the former a much finer division of the drug is made. The hydg. chlor. cor., hydg. chlor. mite, and the hydg. cyanidum, are useful forms of the remedy. I myself usually employ the second or third decimal trituration in powder or tablet form, using the cyanide in smaller doses than the others. With the above, given every two or three hours, bryonia alba is a useful adjunct, or this may be given alone after the mercury has been omitted. Where there is pain or nervous irritability, aconite, gelsemium, belladonna, or pulsatilla, are indicated in minute or small and frequently repeated doses; these are particularly indicated where there is fever. Belladonna alone, or with aconite, is specially indicated where tonsillitis is present; where dryness of the throat or increased temperature are observed, they should be suspended for a time. Pulsatilla having no cumulative tendency, is particularly well adapted to children and infants. Where fever arises from the nervous irritation of catarrh, large doses of quinine are not always so much indicated, as minute doses of aconite, frequently repeated. Where purulency threatens or exists, the calx sulphurata may take the place of mercury. In the employment of medicines a due regard for emergencies requires that their use should be prompt in the acute stages, and omitted, from time to time, in order to ascertain what their effect has been. The more profound anodynes are sometimes indicated by the severity of pain; they should, however, only be employed in a tentative way, since they mask symptoms and interfere with nutrition.

In cases where rheumic, gouty, or neurotic tendencies exist, the employment of quinine or rhus toxicodendron is advisable, the former in from two- to five-grain doses, repeated once or twice daily for adults at the onset; the latter, largely diluted, may be longer continued. Diathetical treatment in general need not be alluded to here. Under this treatment, and the enforcement of necessary rest and other hygienic measures, I have seen inflammation of the ears, nose, etc., quickly disappear. The ear, however, frequently requires special treatment after the general subsidence of head catarrh. The aural mucous membrane requires the gentlest management, especially in delicate persons and in children; in the acute stage, more especially in *otitis purulenta acuta*, there is always danger of increasing, rather than abating, the inflammation by vigorous measures. Secretions in the external auditory canal should be only occasionally removed by gentle syringing, but frequently wiped out with absorbent cotton-wool, which takes up serous fluid and brings away the adherent mucopus. Decomposition of secretions should thus be prevented, and drainage secured. The moment secretion lessens one should be prompt in introducing dressings of boracic acid and calendula without unduly disturbing the healing drumhead. Later on boracic acid alone is sufficient, especially if chronicity threatens; at this stage it is sometimes advisable to stimulate the parts with calendula alone. When acuity is absent, and no danger of reopening the perforation exists, inflation of the ear is in some cases required.

The question of the evacuation of pent-up secretions in the atrium or attic of the tympanum can only be decided in any particular instance by careful examination, and a consideration of all of the features of the individual case; it is by no means always demanded, even when the parts are bulging or for the relief of that most uncertain of all symptoms, pain.

Since climatal vicissitudes exist wherever susceptible persons are found, catarrhal inflammation is a very general affection. Unfortunately, not until frequent exacerbations have left the ear or nose in an impaired condition, is advice sought, and we must then often content ourselves with preventive measures which will avert further destructive changes. The peculiarities of each and every case require careful consideration, the details of which cannot, of course, be given here.

In general it may be said, that in infancy the activity of the physiological processes concerned in development are often exhaustive; after puberty, the play of the maturing functions, especially the sexual, frequently are excessive; after adolescence mental and physical strain begins, and from this to middle age and beyond the struggle of existence is less easily borne, and worry becomes perhaps one of the most important factors of the affection under consideration. It is a notable fact that grief is accompanied, in emotional persons, with greatly increased flow of tears and nasal secretion—showing the influence of mental impressions on these parts. Treatment then should be adapted to the temperament and the age of the patient, and should be hygienic as well as medical. In chronic aural catarrh the treatment is necessarily less satisfactory than in the acute form. It is difficult to avoid disappointing the patient whose hopes and expectations are great, since we must often be content with moderate success only. Undue expectations must be met by frankness without discouragement. One's resources may be greatly tested in meeting the various symptoms which alarm the patient in advanced stages of aural catarrh; thus the greatest alarm is occasioned by the distressing symptoms of autophonia, vertigo, and sudden deafness.

ON RESPIRATORY NEUROSES OF NASAL ORIGIN (VASO-MOTOR CORYZA, ASTHMA).[1]

By BEVERLEY ROBINSON, M.D.,

NEW YORK.

When I was asked, some weeks ago, to take part in the discussion this evening, on "Reflex Symptoms in Nasal Affections," it was my impression that I would be expected to talk, and not to write and read what I had written. A few nights since, I was told that it was desired that contributions to the subject to be discussed should be presented in written form. The consequence of this later knowledge is, so far as I am concerned, that my paper appears to me insufficient for my portion of a very large subject. I wish still to add a word, and it is that I have limited myself in my written remarks mainly to two subjects, hay fever (so-called) and asthma. I have done this advisedly—specially, I might add—because these affections are quite frequently met with, and they are diseases, therefore, which have a general professional interest. For this reason, any line of study, or clinical observation, which shall make clearer certain obscure points in their etiology and treatment, will unquestionably attract your attention and thought. With respect to reflex symptoms, which are rarely encountered, I have said but a few words. To speak of each local manifestation by itself would consume valuable time, and perhaps render my paper wearisome. Moreover, unusual cases in this connection, which we read of from time to time, may be often explained in the manner presently to be referred to when I speak of hay fever and asthma. Again, if what I say in this discussion shall throw any

[1] Read before the New York Academy of Medicine, January 21, 1886.

light upon the subject under consideration, it can only be in making reasonable and probable deductions from a judicial survey of the work of prominent observers in their special field. I may be permitted to add, that in my paper on hay fever (so called) which I expect to read before the Section on Laryngology, I have deviated from the path traced for me this evening, and have alluded more to my individual observation and experience than I have felt would be appropriate to the present occasion.

With these few preliminary remarks, I take up the subject assigned to me, viz., nasal reflexes, or reflex neuroses of nasal origin, pertaining to the throat and air-passages, and to general medicine. These may be divided into:

1. *Those affecting the respiratory tract.*—In these I include: (*a*) hay fever; (*b*) pain and disordered function of the organ of smell; (*c*) laryngeal cough, spasm of the glottis, alterations of the speaking and singing voice, recurrent laryngitis (Ingals: *Journal Am. Med. Assoc.*); (*d*) asthma, recurrent bronchitis, dyspnœic attacks.

2. *Those affecting the digestive tract.*—(*a*) Pain and disordered function of the organ of taste; (*b*) reflex (?) uvulitis, pharyngitis, tonsillary enlargement, etc. (being *all* diseased conditions of the upper portion of the digestive tract); (*c*) gastric disturbances.

3. *Uterine disorders, and affections of the genito-urinary mucous membrane* (J. H. Mackenzie, Elsberg).

4. *Disordered cutaneous function.*—Localized facial sweating (Schmiegelow).[1]

Among these numerous affections, and as placed first on my list, and, also, in view of its great interest and importance, I desire to speak at some length of the affection so long and widely known as hay fever. And here I would immediately say that I am of the opinion that vaso-motor *coryza*, the name assigned to it by Dr. John H. Mackenzie, of Baltimore, is more consonant with a correct scientific interpretation of the disease, and it would be well if physicians were now to adopt it rather than the other misnomer. We are all more or less familiar with the combination of symptoms which constitute this periodical disease. The irritation and occlusion of the nasal passages, the paroxysmal sneezing, suffusion of the conjunctiva, frequent cough, the dyspnœa and oppression, form a picture which once seen is difficult to forget. Of the different theories which have prevailed in regard to its origin and nature, the old *pollen* theory, to which Blackley attributed so much value, mainly because he was a great sufferer from this special irritant, has within the present year been again brought prominently to our attention by its warm defence by no less an authority than Morell Mackenzie, of London. Suffice it to say that the *vitalized principle* of this small corpuscle, which was supposed to be taken up by the blood-vessels and to multiply in their interior, is no longer accepted by the vast majority of observers. Experts now regard it as a local irritant at times, and in certain individuals; as very efficient in causing vaso-motor coryza; frequently as *not* specially injurious; occasionally as obviously innocuous; and under all circumstances as merely *one* of a large number of special external agents, which may prove active in starting an attack when other conditions are present which are at once primary and essential.

In 1876, Dr. George M. Beard endeavored to show that *vaso-motor coryza* was a purely nervous disease; that it was an affection peculiar to the conditions of our modern life, and indicated a hyper-sensitive and debilitated nervous system as its main efficient cause. Five years later, in 1881, and although Edson had already made allusion to the fact, Dr. Daly, of Pittsburg, showed conclusively that one very general, almost necessary, condition of the outbreak of this special form of coryza was the existence of catarrhal disease of the nose or naso-pharynx. Daly cured his cases by local treatment, and very soon his ideas and treatment were adopted by Roe, Sajous, Bosworth, Ingals, etc. Dr. John H. Mackenzie then brought to the attention of the profession the fact that in many of these cases there was evidently present a vaso-motor disturbance of the nasal fossæ. Despite these observations, however, it was soon shown that sometimes vaso-motor coryza existed without previous nasal disease, and that there were still other cases in which nasal disease under different forms had lasted for a long while, and yet vaso-motor coryza had never been developed (Cartaz). Nor was local treatment of the nose always effective in curing these attacks. Thus Sommerbrodt, who has been so successful in his treatment of the different neuroses of nasal origin by means of the galvano-cautery, failed notably in two cases of so-called hay fever. Sufficient cases, however, remain to show conclusively that *variable* reflex neuroses depend on *variable* intra-nasal conditions. These conditions may be—(*a*) permanent, and are then of the nature of true organic lesions; (*b*) ephemeral, or passing—for example, a temporary hyperæsthesia and swelling of the turbinated bodies may be occasioned by cold, warmth, dust, light, psychical emotion, etc. Whenever the irritation is repeated a number of times, the swelling of the soft parts of the nose becomes permanent.

(*c*) Sometimes cough is only explained by intra-nasal conditions, and local treatment of the olfactory organ proves curative when other means have proved ineffectual. Seiler has reported such cases, although in one he attributed the cough to dropping of mucus into the larynx and from the pharynx, and not to the reflex influence of nasal irritation. A case of Mattei has also been reported, in which the envelope of a chestnut lodged in the nose produced spasmodic cough. Once this foreign body had been removed, the cough entirely ceased.

(*d*) Nasal polypi sometimes occasion attacks of asthma as well as other respiratory neuroses, and by their removal the dyspnœic paroxysms are permanently relieved. Voltolini first discovered this fact, which has since been referred to by many writers, among whom I may cite Morell Mackenzie, Terrillon, Fraenkel, etc. Besides polypi, other nasal affections, such as deviated septum, atrophic catarrh, chronic rhinitis, etc., produce similar results. Hunter Mackenzie has particularly called attention to this fact, so far as it related to atrophic inflammation of the nasal passages; whereas Hack and Sommerbrodt appear to consider that turbinated hypertrophy is the main, if not the sole, condition present under like circumstances. Not only do conditions of atrophy and hypertrophy in the nose produce asthmatic seizures, but mere *irritable* conditions of these passages will produce a like effect. Sometimes, however, polypi, turbinated hypertrophy, deviated septa, atrophic rhinitis, chronic rhinitis, localized or general nasal hyperæsthesia, will exist for long periods, and are never followed by attacks of asthma. Again, I have known at least one case—that of a distinguished practitioner of a neighboring city—in whom several nasal polypi were removed, as they were believed to be the efficient factor in producing severe paroxysmal asthma. The polypi were snared off, and the nasal passages remained for a time relatively clear. Still, the paroxysms of asthma returned, and with quite as great intensity as previous to the operations for polypi. In this case the asthma undoubtedly depended upon an old bronchial catarrh, which was also allied with chronic changes in the cellular structure of the lungs. I have just relieved a patient of a polypus partially filling up the right nasal passage, and who, also, had complete occlusion of the left nasal passage from a thickened and deviated nasal septum and a hypertrophied turbinated body. Until within a year this patient had severe asthmatic attacks. Latterly these paroxysms have wholly disappeared. I attribute this fact to the falling down of the nasal polypus, and the lessened irritation by pressure of the posterior portions of the septum and turbinated bodies.

[1] The division given above is taken in great part from Elsberg (Arch. of Laryng.), and somewhat modified by myself.

Another patient is now under my care—or was a few weeks since—who had complete obstruction of both nasal passages from turbinated hypertrophies, particularly marked or excessive at the posterior portions of the lower bodies. Yet this patient, who was a great sufferer from asthma a few years ago, and when his nasal passages were relatively free, has now little or no asthma, although he cannot respire at all through the nose, and his mouth is frequently agape on this account. There are, without doubt, a great number and variety of affections, mainly neuroses, under the direct influence of morbid intra-nasal conditions; still, at the present time we should be careful not to exaggerate their importance, and whenever and wherever we find a neurosis of the respiratory organs immediately reach the conclusion that the nose occasions it. For a long time the profession has recognized a peptic asthma originating in the stomach. A cough, obstinate and paroxysmal, may also take origin in a catarrhal gastritis. A torpid and congested liver may produce a like effect, and even the spleen is not unknown to have a cough which is named "splenic." There is much truth in the observations of the past few years in regard to the predominating influence of a hyper-sensitive nose, but there is also a tendency to exaggeration in this regard, and we should be careful to exclude other efficient causes of vaso-motor coryza, cough, asthma, etc., before admitting their nasal origin and instituting severe or prolonged treatment of this organ with a view to cure the secondary affections. The nose is naturally a sensitive organ, and many times I have produced epiphora, cough, spasmodic closure of the glottis moderate in amount, and slight dyspnœa, by the mere passage of instruments or simple nasal examinations, when the result of my investigation was to show that no nasal trouble of importance existed. This is no new observation, and I am conscious that you are all familiar with it. It is probably true, as Dr. J. H. Mackenzie has shown, that areas of special morbid sensibility exist in the nose at times. That they do *not* always exist I am equally confident by reason of my own clinical researches. Are these areas of special sensibility limited, more or less narrowly, to the posterior half of the lower turbinated body, as this observer would have us believe, or are they specially assignable to the anterior part of this body, as Hack and Sommerbrodt at first stated? I cannot definitely answer this question, but would add that I am of the opinion that later observations will confirm, to some extent, at least, the fact that Hack has mildly insisted upon in his later communications, viz., that the sensibility of the nasal mucous membrane is far more general than he was prepared to accept at first, and that *areas of irritation* may occasionally be found everywhere in the nasal passages. Of course, when we read the histories of clinical cases we shall be disposed to take a one-sided view unless our reading be extensive; and when some time since I read Dr. J. H. Mackenzie's graphic report of a physician of Baltimore, in whom obstinate cough was entirely relieved by the removal of a posterior hypertrophy of a turbinated body, I had almost concluded that this distinguished observer had discovered a clinical fact to which there were few or no exceptions. Since that time, my own cases have not always corroborated this testimony, and I am forced to conclude that a medium opinion is here the correct view to hold.

Alongside of this opinion, however, comes the broad statement of Sommerbrodt, who affirms that in his one hundred and thirty-eight cases of nasal disease in which there were respiratory or other neuroses, in *all* there was marked turbinated hypertrophy. All, indeed, were treated by the galvano-cautery, and very remarkable and successful were the results achieved by him. Irrespective, however, of any nasal disease, there must at last be a special *personal susceptibility* on the part of the individual in order that the reflex phenomena be produced. Of course, the intra-nasal morbid condition may develop or accentuate this susceptibility, but the fact remains true, since we are frequent observers that *numerous* individuals suffer from nasal disease of different kinds, and yet are never affected by any reflex trouble which we can properly attribute to them. The only way in which we can avoid error is to search carefully for other cause, or causes, of these reflex neuroses, and when none are discovered, then, and then only, we should admit the nasal origin of the neurosis, and institute treatment in accordance with it.

Cocaine, according to Cartaz, is of service in making a correct diagnosis, (1) by reason of the local anæsthesia produced; (2) on account of its decongestioning power. This latter observation, which really belongs to Bosworth, must, in my opinion, be warily accepted. If cocaine be used frequently in a nose which already shows a tendency to congestion, it will finish by augmenting, rather than decreasing, this condition. And as regards its anæsthetic power, I am convinced that after a brief period, in certain cases, it loses this power to a certain degree.

At all events, it does not remain sufficient to prevent the patient from having with considerable intensity all the symptoms which combine to form vaso-motor coryza, or the one major symptom which characterizes *asthma*—viz., intense dyspnœa. In regard to treatment I will be brief. We must first, of course, treat the intra-nasal cause if it be found to exist, and must do it with appropriate means. Hack and Sommerbrodt employ the galvano-cautery exclusively, in view of their theory that in every case there is nasal hypertrophy. But, as we have seen, nasal hypertrophy does not exist always, and in such instances it may be unsuitable and injurious to use the galvano-cautery. Try, therefore, at first, milder cauterizations with nitrate of silver, chromic acid, or, what I especially favor, carbolic acid. Hunter Mackenzie has had excellent results from the use of belladonna bougies (gr. $\frac{1}{4}$—gr. $\frac{1}{8}$).

Cartaz recommends cocaine. After all, these are only palliative measures. When there is considerable hypertrophy the galvano-cautery is the best curative means. When the soft tissues are hard and fibrous the cautery loop, or suitable scissors, may be employed with good effect, as recommended by Cartaz.

REFLEX OCULAR SYMPTOMS IN NASAL AFFECTIONS.[1]

By E. GRUENING, M.D.,
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In selecting this title for the paper of the evening, I desire to exclude from consideration ocular affections due to an extension of catarrhal disease of the Schneiderian membrane. Such affections are well known, and generally conceded to exist. I wish to lay before you to-night the results of some clinical observations tending to show that certain groups of ocular symptoms may be looked upon as reflex neuroses, and furthermore, that the source of the ocular disturbance may be found in certain alterations of the nasal structures. At present, the view is held by many that asthma, hemicrania, supra- and infra-orbital neuralgia are in many instances but neurotic phenomena due to reflex nasal irritation.

Voltolini demonstrated that asthma may be relieved by the removal of a nasal polypus. Hack mentions a series of two hundred and forty cases of hemicrania and eighty-seven cases of asthma cured by the galvano-caustic destruction of the hypertrophic corpora cavernosa of the nose.

A number of observers following in the wake of Hack's labors report equally favorable results. The immediate cessation of asthma, of hemicrania, of supra-orbital neuralgia, and other symptoms, as a direct consequence of the nasal treatment, argues most forcibly in favor of the reflex nature of these phenomena.

To the ophthalmologist the subject of nasal reflex is

[1] Read before the Section of Ophthalmology, in November, 1885, and before the Academy of Medicine in January, 1886.

of great interest. If an irritable nose may cause grave symptoms in distant parts, why should the neighboring eyes, with their direct nervous and vascular connections, be spared? Reflex ocular symptoms—for instance, lachrymation, conjunctival hyperæmia, photophobia—may be readily obtained by touching certain parts of the Schneiderian membrane with a probe, and *vice versa*; reflex nasal symptoms—for instance, sneezing—may be evoked by exposing certain irritable eyes to a bright light.

In the cases mentioned by Hack and his followers, ocular symptoms are incidentally mentioned. Lachrymation, photophobia, increased vascularity of the ocular and palpebral conjunctiva, pain and pressure in and around the eyes, fluttering scotoma, frequently co-existed with the graver symptoms and passed away with them, in consequence of the nasal treatment. Now, a certain group of ocular symptoms, namely, lachrymation, sensitiveness to ordinary light, and redness of the eyes, are presented by a considerable number of our patients, and yet the examination of their eyes reveals absolutely no anomaly. The refraction may be emmetropic, the vision normal, the conjunctiva sound, the puncta lacrymalia may be open and favorably placed, and the nasal ducts permeable.

For such cases collyria have been prescribed, cold or warm applications recommended, general hygienic measures enjoined—all without the slightest benefit to the patient. Knowing that the symptoms—lachrymation, photophobia, and increased vascularity—may be evoked at will in all eyes by mechanical irritation of the nasal mucous membrane, may we not logically infer that the continuance of such ocular symptoms may be due to the continuance of a nasal irritation? This is the *à priori* argument, and of conditional value in practical medicine. If, however, in a considerable number of pertinent cases, showing the ocular symptoms in bold relief, local and general treatment prove ineffective, and nasal treatment promptly effective, should we not then present the convincing *à posteriori* argument—"sublata causa, tollitur effectus?"

Of such cases I have observed a large number in the past two years, and I shall cite only a few of them as representatives of this class.

Case I.—H. S——, aged forty-six. He says, "My eyes have troubled me for twenty years; when I rise in the morning I feel as if I had sand in them; I cannot look at any object in ordinary light; when I converse with any one, I am obliged to put on my blue glasses in order to look at the person. Ordinary daylight and the slightest wind cause my eyes to water. My eyes are always red. I have been treated by every oculist of note in America and Europe. No one has benefited me."

Case II.—H. S——, aged thirty-four, says: "When I awake in the morning my eyes pain me. They are red and feel dry. After I have bathed my face my eyes feel much better. The transition from the sleeping into the waking state is very trying to my eyes. There is more or less watering and smarting of my eyes all day long. This condition has lasted six years. I was treated the first year, but as the treatment did not relieve me, I discontinued it."

Case III.—F. L——, aged twenty-four, a clerk, relates his case in the following manner: "In the morning my eyes are slightly glued, they feel very uncomfortable until I have washed them. They feel weak all day. I cannot bear ordinary daylight, but gaslight is still worse. When a slight wind strikes my face the eyes water. My trouble dates from early childhood. My eyes have been treated, but not improved."

Case IV.—E. H——, aged twenty-six, a draughtsman, says: "I have a constant pressure behind and around my eyes. At times only in one eye, at times in both. The upper lids feel hot and dry. My eyes water freely in the open air, but never in the house, or when I am at work."

Case V.—A. E——, aged twenty-six, salesman, makes the following statement: "My eyes feel very weak in the morning. In the street I can hardly open them. At about ten o'clock they feel better. When I attempt to read in the evening a film comes over my eyes and I cannot continue."

In the cases just mentioned the nasal alterations were slight. I found simple catarrhal affections of the Schneiderian membrane, with insignificant swelling of the corpora cavernosa, a condition so common in New York that it may be considered normal. The question will now be asked as to whether we possess any guide, in the pathological appearance of the nasal mucous membrane, pointing to the origin of the neurotic symptoms. This question must be negatively answered at present.

Why this condition should give rise to ocular symptoms in some persons, and not in others, is difficult to explain. It may be due to a special irritability of the terminal nerves of the nasal mucous membrane; it may be due to a special neurotic tendency on the part of the individual. We have a practical guide in the possible efficiency of the nasal treatment for the relief of the ocular symptoms in the use of cocaine. If in these mild cases the instillation of cocaine into the nose relieves the ocular symptoms, we may assume that a simple anti-catarrhal treatment will suffice for the cure of the affection.

But the cases which we encounter are not all of this simple nature. Very frequently we find an immense hypertrophic swelling of the corpora cavernosa of the turbinated bone. This swelling may be found at the anterior or posterior portions of the lower turbinated bones, on the lower edge of the middle turbinated bones. In other cases we have to deal with a stenosis of the nasal passages due to a variety of causes, a combination of hypertrophy of the erectile tissue, cartilaginous excrescences from, and deviations of, the septum. These are the elements with which we must cope in the successful treatment of the reflex ocular symptoms.

A few clinical observations may serve to illustrate the class of cases in which extensive pathological alterations of the nose gave rise to reflex ocular symptoms, but caused no subjective nasal trouble.

Case I.—G. J——, twenty-six years of age, is a polisher of metals. In the past six years he has been greatly troubled by the bright reflexes of metallic surfaces, so much so, that he was obliged to discontinue his work many weeks. Whenever he fixes any object in ordinary daylight, his eyes begin to water. He has been treated with astringents, electricity, internal remedies, chiefly quinine, and absolute repose in a dark room. He never derived benefit from any mode of treatment. His eyes are sound, the refraction is emmetropic, the vision normal, the conjunctiva more vascular than usual, the lachrymal apparatus apparently in good condition.

The examination of the nose shows that his mucous membrane is of a bright red color and thickened over the right lower and middle turbinated bones. In spite of this thickening the right side of the nose is spacious, and the turbinated bones are nowhere in contact with the septum.

The left side of the nose presents a stenosis, especially of the lower meatus, where a ridge of cartilage, running from the septum to the inferior turbinated bone, and coalescing with the latter, forms a bridge-like connection. Instillations of two and three per cent. solutions of nitrate of silver into the nose, and the application of nitrate of silver in substance to the thickened parts of the nasal mucous membrane, were followed by temporary aggravation of the ocular symptoms, and finally, by a slight improvement. This, however, did not satisfy the patient, as he was not yet able to work steadily. I then removed the cartilaginous ridge of the left side of the nose with a punch especially constructed for the purpose. This operation was followed by an immediate

cessation of the ocular symptoms. The patient resumed his occupation, remaining under observation six months, during which time no relapse occurred.

CASE II.—Miss H——, aged sixteen, gives the following history: "When I rise in the morning my forehead and my eyes pain me very much. My eyes feel dry, and it is hard to open them to the light. When I have washed my face and taken my breakfast, my head and my eyes feel better. The slightest wind causes my eyes to water. I cannot study, because when I begin to look at my books my eyes feel brimful of water, as though they would run over if I continued. In the past two years I consulted several physicians, who prescribed eye-washes and glasses. My eyes are just as bad now as they were two years ago."

The examination of this young girl's eyes shows no anomaly.

The refraction is emmetropic, the vision normal, the conjunctiva pale. The examination of her nose yields the following result: The lower end of the right middle turbinated bone is considerably swelled. The mass obstructs the middle meatus and presses upon the septum. I anæsthetized the nasal mucous membrane with cocaine, and destroyed the swelling with the actual cautery. The relief which this patient obtained was immediate, and thus far permanent.

The frontal morning headache did not return, and the patient can use her eyes without inconvenience. The operation was performed March 5th, and the patient was feeling well on October 5th.

CASE III.—H. K——, aged twenty-seven, a merchant of New York, consulted me on June 8, 1885. He related his history as follows: "My eyes began to trouble me when I was twelve years of age, and I have been under treatment fifteen years. I feel my chief annoyance in the morning, when my eyelids are very stiff and I cannot open my eyes. When I am in the open air my eyes water continually, especially in winter. In cold weather my eyes are always red, and the glare of the snow is very painful to me. I have never been able to read at night. Whenever I attempted it my eyes filled with water. I was treated with nitrate of silver in the morning, and ointment in the evening, for four years every day, then for two or three years twice a week, then once a week, then once in two weeks, then once in a month, and was finally discharged, but my eyes were as bad as before. Last year I was in Minnesota, where the cold was extreme and the snow covered the ground. My suffering was intense, and I returned to New York to consult my physician. He resorted to the former mode of treatment—a daily application of nitrate of silver to my lids. I am very much discouraged because my eyes do not improve in spite of so much treatment."

The examination of the eyes of this patient showed, as in the other cases, an emmetropic refraction and normal vision, but a decided hyperæmia of the conjunctiva, and a red and velvety appearance of the palpebral conjunctiva. The examination of the nose gave the following result: The mucous membrane covering the right lower turbinated bone was enormously thickened, and changed into a hard globular mass pressing against the septum, resting upon the floor of the nose, and obstructing the lower meatus. Under the use of cocaine the globular swelling became somewhat smaller, allowing the introduction of the wire loop of Stoerk's snare, by means of which the whole mass was removed. The distressing symptoms from which Mr. K—— had suffered so many years disappeared that very day. I saw my patient on November 5th, five months after the operation. He stated that his eyes no longer troubled him in the morning, and that he could read several hours in the evening without any discomfort.

In the past two years I examined and treated more than two hundred cases, in which I referred the ocular symptoms to nasal disease.

The treatment adopted for the cure of the nasal affection differed with the character of the pathologica changes. Thus, in simple catarrh of the nasal mucous membrane astringents were employed, while in the hypertrophic and the obstructive forms of disease the cautery, the snare, the knife, the punch were resorted to. The treatment was not uniformly successful. A number of patients, terrified by the novelty of the procedure, did not return. Many observations were therefore incomplete, but a sufficient number—a series of 150 patients—remained long enough under treatment and observation to allow the formulation of definite conclusions as to the correlation of ocular symptoms and nasal affections.

The cases here presented have the following features in common:

1. Burning and smarting sensation of the lids or of the eyes, more pronounced in the morning than in daytime.
2. Inability to fix an object in ordinary daylight.
3. Increased vascularity of the conjunctiva, and lachrymation upon slight provocation, such as a mild current of air.
4. Sound condition of the eyes and their appendages.
5. Inefficiency of the ocular and the general treatment.
6. Efficiency of the nasal treatment in spite of the absence of nasal symptoms.

THE RELATION OF REST TO THE SUCCESS OF ANTISEPTIC SURGERY, WITH REMARKS ON "LISTERISM."

BY SIMON BARUCH, M.D.,

NEW YORK.

THE results of antiseptic surgery in Bellevue Hospital, which were so graphically presented by one of its attending surgeons in a recent essay[1] before the New York Academy of Medicine, are extremely gratifying to American physicians, and to the advocates of "Listerism," so called, everywhere.

Scarce have these pæans of praise in behalf of antiseptic surgery passed from our hearing, when quite a different strain reaches us from one of the consulting surgeons of the same institution.[2]

While the former attributes the wonderful results to a scrupulous adherence to antiseptic treatment (introduced by Lister) previous to and during the recent operations (excepting the substitution of the spray by irrigation), the latter regards these "manipulations and devices" as "serving no other purpose than the walking, talking, and gestures of the prestidigitator. They abstract the attention and conceal the adroit manipulation by which the trick is actually performed." To the general practitioner, who must needs study for his guidance the opinions of those whose opportunities for practical observation are larger, such differences regarding the utility of important measures are extremely interesting. To sift the truth is his aim. Fortunately this may be accomplished without difficulty, on the subject under discussion, as I propose to show.

The writer is impelled to the following remarks by reading on the same day the passages quoted below. The great gulf which lies between these opinions he has endeavored to bridge over in vain, and these lines are the result of his reflections upon the subject.

Says Dr. Hamilton, an eminent American surgeon, after casting doubts upon "Mr. Lister's theory, which is far from being universally accepted," and comparing his "manipulations and devices" to those of the prestidigitator: "The prestidigitators are not deceived, but deceive their audiences; while Mr. Lister and his disciples deceive both themselves and their audiences."

Says Professor Gerhardt, the man who was chosen to

[1] The Comparative Results of Operations in Bellevue Hospital, by Stephen Smith, M.D., MEDICAL RECORD, October 17, 1885.

[2] The Art of Primary Union, etc., in Large Incised Wounds, by Frank H. Hamilton, MEDICAL RECORD, January 2, 1886.

wear the mantle of Traube and Frerichs: "From Lister's method a new surgery has arisen, which does not shrink from the opening of any cavity of the body, which lays the knife upon the most vital organs, which says, if thy kidney or thy pylorus offend thee, we will pluck it out and cast it away" (*Berl. klin. Wochen.*, p. 947, November 10, 1885).

Having, during a three years' service as military surgeon, and later in private practice, enjoyed considerable opportunity for observing the method of wound-dressing which he was taught twenty-five years ago, and which was in vogue up to the Listerian or antiseptic epoch, and having later, but especially during the past five years, studied the results of the antiseptic method in the New York hospitals, and to a limited extent in private practice, the writer has become a convert to the latter method without hesitation.

When I look back upon my experience in the field-hospitals at Boonsboro', Spottsylvania Court-House, and Gettysburg, and compare it with that of to-day, I rejoice that I have lived to see this happy era in surgery.

Operations (especially secondary procedures) were done with care, and anæsthesia rendered haste unnecessary; the then prevailing principles, which are enunciated so ably in Dr. Hamilton's paper, were executed as nearly as possible, especially with reference to cleanliness; water dressing was applied and the stump left at rest for two or three days. But now the work began. Each stump was exposed by removing the bandages, now soiled and saturated with decomposing fluids; sponges were plied and water was poured in order to cleanse the stump, which lay quivering and trembling within the hands of an assistant. The openings from which dangled the silk ligatures, and which were intended for drainage, were, in many instances, so closed by swelling that it was necessary to cut some of the sutures. The stump being clean, it was again bandaged and replaced. Day after day the poor patient was subjected to the same ordeal, perhaps intensified by the injection of some "disinfectant" (the word antiseptic had not yet became the surgical shibboleth) solution through the stump. This undressing and redressing was continued from day to day, sometimes several times daily, for weeks, until the patient either succumbed or the stump healed, while he was reduced to the last extreme of debility. A few cases recovered by primary union, and were displayed triumphantly as remarkable. This was substantially the practice adopted in the majority of civil and military hospitals twenty-five years ago.

To-day how changed is all this!

The chief aim of the surgeon is to make the wound as free from irritating elements as possible, and afterward to so prepare it as to render it unnecessary to repeat the dressing. Every precaution is taken to render clean and aseptic the part involved, and everything that comes in contact with it; a stream of water, rendered clean and aseptic by boiling or by certain medicinal subtances, plays from an elevated point upon every recess of the wound, gently removing clots and impurities; every bleeding vessel is tied, the ligatures being used without stint and cut short, because, being aseptic, they will not become sources of future irritation; drainage-tubes are freely introduced to lessen tension and guide the fluids outside of the wound, where the antiseptic dressing neutralizes their noxious qualities. Now the stump is placed into a dressing or "device," which provides admirably against decomposition of blood serum or pus, and in this most cleanly condition it is left to the vis medicatrix naturæ. In other words, that which all surgeons formerly attempted to accomplish by daily sponging and washing, is now far more effectively done by the antiseptic absorbent material which surrounds it. The neat Lister dressing, each of whose parts is adapted to certain ends, is now mostly replaced by large quantities of absorbent material, making a more clumsy, yet more simple and not less effective device for executing the principles of antiseptic surgery. What is the result? From every land comes the answer: A new era has arisen in surgery; wounds heal more rapidly, exhaustive suppuration is almost unknown, the ratio of mortality is wonderfully reduced by the infrequency of infective wound disease. "The surgeon should never lose a patient from the consequences of an amputation, provided shock has been overcome" (Schede).

It would be an act of supererogation to defend Listerism at this late day, and such defence would come with more force from a surgeon than from a general practitioner. But even the latter (who should ever keep abreast of the latest thought in all branches) will have neglected his duty if he cannot answer Dr. Hamilton's question: "What treatment, either ancient or modern, has presented a better record than this, furnished by Alanson (35 great amputations without a death), of Syme (20 cases without a death), of Percy (92 cases with six deaths), and of Lucas (70 cases with five deaths)?"

The statistics of modern surgery abound in "better records." I will only refer to two of these. Neuber, of Kiel, reported to the Congress of German Surgeons in April, 1880, that under his Dauerverband he treated 83 major operations, of which 60 healed under one dressing, without a single death. In his work on "Die Amputation unter dem Einfluss der antiseptischen Behandlung, Halle, 1881, Dr. M. Oberst relates 261 cases, with 14 deaths, ten of which died from collapse, one each from tetanus, anæmia, exhaustion, and habitual erysipelas.

It is a singular fact, that the chief advantage of antiseptic dressings has so often been lost sight of in discussions of this subject. To my mind, at least, it appears very probable that in the fact that, by means of the antiseptic treatment of the wound, and by the subsequent antiseptic absorbent dressings, we are enabled to place the wound at complete rest until healing is accomplished—in this fact lies the secret of much of the success of modern surgery. Gamgee has done excellent service in impressing the advantage of rest in connection with antiseptic dressings. Without rest, repair certainly cannot proceed satisfactorily. How was it possible to give the most important element free play, when the wounds were daily manipulated by undressing, sponging, syringing, and bandaging? What would be the result in a simple fracture, if the surgeon imitated the old and happily obsolete practice of wound treatment by manipulating the broken ends of bones once or oftener every day? How long a time would the healing of a simple fracture even require? Certainly many weeks and months, and in depreciated conditions it would be entirely frustrated. But surgery has long ago discovered the vital importance of *rest* in the healing of fractured bones, and the result is rapid and complete union in the large proportion of cases, when rest is fully and thoroughly given to the parts. Lister has succeeded in discovering a principle upon which the same rest may be conferred upon open wounds, whose proper cleansing formerly necessitated frequent disturbance. In the simple fracture the overlying tissues make a complete "Dauerverband" (as Esmarch calls his antiseptic absorbent dressing), which, being impenetrable, renders the site of the lesion aseptic.

Lister has enabled us to imitate this procedure by the modern antiseptic treatment of wounds. By surrounding the latter with gauze protective, cotton, tow, lint, turf, mould, wood-wool, or whatever the ingenuity of the individual surgeon may contrive in imitation of the great Lister's dressing, and in obedience to the principles first inculcated by him, we may permit large wounded surfaces, open or closed, to remain undisturbed for days and weeks. Underneath this benign protection, noxious fluids oozing from the wound become harmless; in fact the latter remains surgically clean, and the great reparative processes of nature are allowed the same full play which they enjoy in a splinted fracture. If the wound is clean and at rest, the patient is well and at rest. Those who have witnessed the frequent prostration of the pa-

tient, the rise of pulse and temperature, and nervous agitation consequent upon the "dressing" of large wounds in the pre-Listerian period, will appreciate this greatest of all boons—rest—which antiseptic surgery has conferred upon wounded men. And what shall be said of the saving of time, trouble, and anxiety to the surgeon and dresser, who were forced to spend hours upon hours in this painful work?

As the valuable paper of Dr. Hamilton, which led me to these reflections, refers chiefly to the inutility of "Listerism" in securing "primary union of large incised wounds," I may be pardoned for a quotation from Lister in relation to this point. "Under strict antiseptic treatment union by first intention has no longer the importance it used to possess. As regards the essential points of avoidance of inflammation and fever, of pain and danger, it is a matter of absolute indifference whether primary union occurs or not" (*The Lancet*, November 19 and 26, 1881). There is therefore no defence called for, upon this point, against the animadversions of the author of the paper.

The opponents of Listerism (so called) seek their chief "argument" in the fact that abdominal surgery has, in the hands of a Keith and a Tait, achieved brilliant results without antiseptics. Those who are familiar with Mr. Lister's writings would scarcely resort to this argument, inasmuch as Mr. Lister has acknowledged that he "never believed that the success of antiseptic ovariotomy should be regarded as a signal proof of the truth of the antiseptic principle." He says: "Mr. Spencer Wells and Mr. Keith achieved results which astonished the world before strict antiseptic treatment was thought of; and when, several years ago, Dr. Keith expressed to me an intention of performing ovariotomy antiseptically, I strongly dissuaded him from his purpose. Even Keith, at length adopting strict antiseptic measures, with an improved spray, for a while surpassed himself by an unbroken series of eighty successful cases" (*The Lancet*, November 19 and 26, 1881). Mr. Lister enters fully into the discussion of the relation of abdominal surgery to antiseptic treatment in the paper.

But Mr. Callender, Mr. Savory, and Mr. Bryant are also cited by the author of the paper, as having "publicly declared their non-acceptance of the doctrines of Mr. Lister." As these are general surgeons, it may be said, at least of Mr. Callender and Mr. Savory, that their practice certainly does not accord with such "public declaration."

In *The Lancet* of April 15, 1882, will be found an article headed "Modified Listerism; the late Mr. Callender's Method of Wound Dressing." This paper is written by one who styles himself "one of Mr. Callender's old dressers," and in it is urged the claim of his master *to be the greatest exponent of this system of dressing wounds* (italics mine).

In *The Medical Times and Gazette*, August 16, 1879, is an account by Mr. Savory of his method of wound-dressing. Without quoting the details, it will suffice to mention that he used carbolized catgut ligature, "then, over the course of the wound and for some distance on either side of it, I should place a layer of folded lint which has been previously well soaked in olive or almond oil containing one part in about fifty of carbolic acid; over this I should place two or more layers of dry lint, either with or without cotton wool," etc. "The principle of Lister's practice is an easily intelligible one." Again, "But the principle on which it rests is a sound one, the logical outcome of established facts." "Defined in this way, *I believe that every successful method of treating wounds will be found to conform to the antiseptic principle*" (Savory, in *The Medical Times and Gazette*, August 16, 1879).

This language does not seem to imply a renunciation of Lister's doctrine, by Mr. Savory at least.

I opine that if the mode of operative procedure and subsequent dressing of "the considerable number of equally distinguished French and German surgeons" referred to by our author as antagonistic to Listerism were investigated, it would be discovered (as in Mr. Callender's and Mr. Savory's cases), that each and every one is carrying out the principles of Lister in some "modified form," whether he irrigate with boiled, carbolized, or sublimated water; whether he ligate with aseptic silk or catgut; whether he dress with protective gauze and mackintosh, or with antiseptic cotton, tow, wood-wool or turf, or with plain carbolized oil. In formulating rules for the guidance of the average surgeon, Lister has exercised great care; by doubly barring and locking the fortress he aims to secure the patient against negligence on the part of his surgeon. The more recent "Dauerverband" of the Germans is an improvement upon the Lister dressing, inasmuch as its excessive breadth and thickness guard against possible carelessness in the application, and does not demand so much exactness of detail, while it enables the wound to rest securely without contamination from within or without.

In conclusion I would express, as a general practitioner, my gratitude to Lister for having greatly lightened my burdens, and give utterance to the hope that my confrères, who in localities distant from the medical centres perform thousands of surgical operations, will look carefully into this subject ere they permit themselves to be led back to the old method of wound-treatment.

43 East Fifty-ninth Street, January 12, 1886.

Progress of Medical Science.

Observations on the Excretion of Albumen in Nephritis.—In his graduation thesis (St. Petersburg, 1884), Dr. Korkunoff records the results of a prolonged series of observations on this important subject. Although scarcely any one topic connected with medicine has received more attention than this one, it nevertheless continues to present interesting problems that still await solution. The author directed his attention in the first place to the excretion of albumen in chronic nephritis, as influenced by conditions of rest and activity, also the time of day and night, and cognate subjects. His conclusions may be summarized as follows: 1. The absolute daily amount of albumen excreted during days of exertion is larger than that during days of rest. 2. The daily percentage of albumen in urine is also less during rest than during exertion. 3. The absolute amount of albumen in urine is larger by day than by night, during both days of exertion and those of rest. 4. The same may be said of the percentage of albumen. At the same time, it must be stated that under rest the percentage decreases by day in a considerably greater degree than by night; hence, on days of rest, the difference in the percentage between day-time and night-time is less considerable than on days of exertion. 5. A comparison between the absolute amount of albumen excreted during day-time under exertion, and that under rest, shows that in the latter case the amount is considerably less; the same may be said of albumen excreted during night. 6. Notwithstanding the fullest possible attempts to preserve identical conditions during individual observations, the excretion of albumen presents considerable variations both under rest and exertion. This circumstance, in all probability, depends upon such factors as the condition of the mind, the quality and amount of sleep, the equalization of which is impossible. Some of the other results obtained by Dr. Korkunoff may be given as follows: 1. Under exertion, the amount of urine is larger by night than by day; under rest, the difference is effaced, or even inverted. 2. During exertion the daily amount of urine is, as a rule, larger than during rest. On the other hand, when we compare the amount of urine excreted with the amount of water ingested by the patient, we find that during exertion, while the patient drinks more water, he excretes relatively smaller amounts

of urine; on the contrary, under rest, the amount of urine is larger than the amount of drink. In other words, exertion brings about an increase in the loss of water by the skin and lungs, while during rest the largest part of the water taken is filtered through the kidneys. 3. During exertion, the specific gravity of urine is higher by day-time than by night, the difference being less marked and sometimes even reversed under the influence of rest. The second part of the author's work describes the outcome of his observations on the excretion of albumen in chronic nephritic patients under the influence of the sudorific treatment by warm baths, with subsequent packing in blankets. The patients were put in bed three days before the observations, and remained there during the whole time of the latter. Each observation lasted eight days, for four of which the patient remained without any treatment, and for the next four took daily two baths of 101.75° F. each of half an hour's duration. From this series of observations, Dr. Korkunoff draws the following conclusions: 1. The absolute daily amount of albumen in urine in bath-days is mostly smaller than in days without baths. 2. The per cent. amount of albumen also lessens under the influence of baths. 3. The weight of the body invariably decreases, the decrease being proportionate to the amount of dropsy present; that is, the *more* dropsical the patient is, the more considerable is the loss in his weight. 4. The amount of urine invariably lessens, but the specific gravity of the latter increases, in spite of the fact that the amount of water ingested by the patient during the diaphoretic treatment is always larger. 5. The loss of water by the skin and lungs is considerably increased by the sudorific treatment. In all the cases dropsy rapidly disappeared or greatly diminished under the use of baths. From the fact that the absolute and per cent. amount of albumen is diminished by the diaphoretic treatment, the author deduces the practical corollary that warm baths act not only symptomatically, but also produce a favorable influence on the morbid process in the kidneys; for, by their diminishing the excretion of albumen, they stop the progress of general exhaustion of the patient, and relieve the irritation caused to the kidneys by the egress of albumen.

Charcoal Enemata in Typhoid Fever.—Dr. Duval writes in *l'Abeille Médicale* of December 21, 1885, calling attention to the value of rectal injections of charcoal in the treatment of typhoid fever. He gives small enemata of simple water, containing a tablespoonful of vegetable charcoal, two or three times in the twenty-four hours, and finds that by this means he is able to cure the meteorism, and also to destroy the fetid odor of the stools. At the same time there is usually a marked improvement in the general symptoms, thus seeming to prove that no small part of the danger of this disease is due to the resorption of septic material contained in the rectum.

Perforative Peritonitis.—Dr. Ebstein sums up the results of his observations on peritonitis from perforation as follows: 1. As in acute diffuse peritonitis, so also in peritonitis following perforation of the stomach or intestine from ulceration or other cause, there may be contraction of the abdominal muscles; this may be very intense, and its duration may vary. Death may occur while it is present. As a rule, the contraction gives way to more or less swelling of the abdomen, with or without tension of the abdominal muscles. 2. When contraction of the abdominal muscles is present, perforative peritonitis may be suspected: *a*, if symptoms of acute diffuse peritonitis be present; *b*, if liver-dulness, which was known to be present before the symptoms set in, disappear partly or completely, and if there be a doughy condition of the epigastrium, with a distinctly tympanitic, generally high, percussion-sound. 3. The last-named symptoms, however, lose much of their value when the abdomen is much distended, as great distention of the bowels may produce perfectly analogous signs. The statement of the patient that he has felt as if something were torn in his belly has a certain diagnostic value. Dr. Ebstein disapproves of moving or shaking the patient for the purpose of diagnosis, as being dangerous, and of doubtful value. 4. Persistence of liver-dulness in perforation of the stomach or bowel into the peritoneal cavity indicates, provided the liver be not fixed in its position, that the peritoneal cavity contains fluid and not air, or that perforation has taken place a short time before or after death. 5. In some cases of peritonitis from perforation of the stomach, only the contents of the stomach escape into the peritoneum, but no air. The escape of fluid ingesta is followed by very acute peritonitis; if this do not occur, the perforation has taken place after, or a very short time before, death. 6. The absence of vomiting when peritonitis is present, and its arrest when diffuse acute peritonitis has set in and the patient remains conscious, indicates either that the peritonitis has been caused by perforation of the stomach, or that perforation has supervened on diffuse peritonitis. Vomiting is absent where perforation takes place into the general peritoneal cavity; and the same may be the case when the opening leads into the omental sac. Vomiting may occur in peritonitis from perforation of the stomach, or may recur after cessation, if the opening become closed by adhesions to the neighboring parts.—*Zeitschrift für klinische Medicin.*

Quintuple Pregnancy.—Dr. Polyakoff reports the following remarkable case (*Meditsinskoe Obozpénye*, No. 10, 1885): A robust peasant woman, twenty-seven years of age, of Syarai, Russia, married nine years, became pregnant for the seventh time in June. During the latter part of her pregnancy the abdomen was seen to be very large, and the patient suffered from dyspnœa and great weakness. Labor began on March 1st, and five female children were born one after the other at short intervals, three presenting by the occiput and two by the feet. Each fœtus had a sac to itself with a separate amnion, but there was one chorion common to all. The first fœtus, which was deformed, was born dead, the others lived for a few minutes subsequent to birth. There was one placenta, weighing about one pound and a half, and to its edge the umbilical cords were attached. Four of the fœtuses were regularly formed, but the first one born was microcephalic, and had less than the ordinary number of fingers and toes. The umbilical cord attached to this fœtus had one artery and one vein, but the others had each three vessels.

Poisoning from the Fumes of Fulminate of Mercury.—MM. Marie and Conde report four cases of this sort occurring in persons employed in shooting galleries. In some there was simply stomatitis, in others there were muscular tremors in addition. The individuals passed all their time in the galleries, and the cases of poisoning occurred in the winter, when the doors and windows were kept closed. The symptoms made their appearance very soon after a new style of cartridge, in which fulminate of mercury was used, had been adopted. The authors believe that the poisoning was due to the fumes arising from the combustion of the fulminate of mercury in the percussion caps.—*L'Union Médicale*, December 19, 1885.

Cerebro-spinal Meningitis without Symptoms.—A case is reported by Professor Lepidi of a man seventy years old, a hard drinker, in whom a diagnosis of pneumonia was made, but in whom, after death, there were found also the lesions of cerebro-spinal meningitis. With the exception of a little headache and delirium, not uncommon in hard drinkers suffering from pneumonia, there had been no symptoms of cerebro-spinal inflammation. In the meningeal exudations were found micrococci similar to those of pneumonia.—*Gazzetta degli Ospitali*, December 13, 1885.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, January 30, 1886.

A "NEW THEORY OF INFLAMMATION."

THE gross phenomena of inflammation are comparatively simple and easily observed. The four cardinal symptoms noted by Celsus—*rubor*, *tumor*, *dolor*, *color*—have been accepted by all later observers, and modern pathology only adds a possible fifth—the *functio læsa*, *i.e.*, arrest of function in the inflamed part. Histology and chemistry have shown that these grosser disturbances are caused by certain vascular and textural changes, such as dilatation of blood-vessels and increased porosity of their walls, exudation of the plasmatic constituents of the blood and passage out from the vessels of white and red blood-cells. Recent studies also show that the inflammatory process is a destructive and depressive one so far as the tissues are concerned; that it does not irritate and kindle into increased activity the protoplasm of the cells, but, rather, the reverse.

Still further, it is known that inflammation is always started by some irritant or injurious influence acting either upon the blood-vessels or the surrounding tissue, or both.

But pathologists are not yet satisfied simply with having learned the natural history of the inflammatory process. We have had, therefore, at different times, various "theories of inflammation;" that is to say, attempts to formulate a law governing all the phenomena of inflammation. The neuroparalytic and neurospastic theories of Henle and Stilling, Hoffmann, Budge, and others, have long passed away and been discarded as insufficient. The "inflammatory stimulus" theory of Virchow, and the theories of tissue attraction suggested by Paget, Simon, and others, have also been shown to be incompetent. Of late years, owing mainly to the labors of Cohnheim and his pupils, what may be termed the "vascular theory" of inflammation has very largely prevailed. According to this, the inflammatory phenomena are due fundamentally to some injurious influence acting on the vessel or its walls. This influence may come from without, as in trauma, or from within, as in infected blood. In any event, the vessel dilates, its walls become more porous, blood-cells pass out, and plasma exudes.

Changes in the tissues occur either before, during, or after the vascular phenomena, but these changes are destructive and degenerative, and do not cause cell multiplication. The pus-cells present come from the blood.

Despite much opposition, the vascular theory of inflammation still maintains itself as the most satisfactory one yet offered.

Recently a young surgeon of Leipsic, Dr. Landerer, has propounded another theory of inflammation, which he calls the "mechanical" (*Volkmann's Sammlung Klinischer Vorträge*, No. 259).

Dr. Landerer calls attention to the fact that the pressure of the blood in the capillaries is so great that unless there were a supporting pressure from the tissues and fluids outside they would dilate and be unable to retain their contents. The intra-vascular pressure in the capillaries is estimated by Von Kries to be at least equal to twenty millimetres of mercury, or two hundred and fifty millimetres of water. The extra-vascular pressure, on the other hand, is estimated by Landerer to average about one hundred millimetres of water. The elastic cushion of tissues about the capillaries, therefore, exerts a constant supporting pressure equal to about one-third of the expanding intra-vascular pressure. Now, in inflammation it is believed that these surrounding tissues are injured, lose their elasticity, the capillaries receive less support; hence they dilate and blood surges into the affected part. Landerer does not deny the influence of injury to the vessel-wall or the potency of vascular factors in the production of inflammation.

In œdema the tissues are relaxed, but are much less affected than in inflammation. In arterial hyperæmia and congestion of nervous origin there is a paralysis of the arterioles while the tissue elasticity is not affected. Hyperæmia from irritants and heat is like the first stage of an inflammation.

Dr. Landerer considers inflammation a conservative and protective process, designed to relieve the organism of irritable and destructive agencies acting upon it. Inflammation, with him, is a reparatory process, and it is not wise to combat it. He advises the use of warm applications, and rarely of cold, except as an anæsthetic.

We believe that Landerer's observations should be accepted as adding something to our knowledge of the phenomena of inflammation. If correct, they throw new light upon its mechanism. The few pertinent facts which he appears to have established, however, are not sufficient to form the basis of a new theory of inflammation.

THE PHENIC-ACID TREATMENT OF PHTHISIS.

IN the modern treatment of phthisis there is about an equal activity among those who are urging antiseptic and those who are urging supporting medication. Pulmonary injections, inhalations, forced feeding, rectal feeding, dry or compressed, and medicated air are among the measures that are receiving attention.

M. le Dr. Filleau (*Journ. de Médecine de Paris*) believes phthisis to be a parasitic disease, and one to be combated by anti-parasitic remedies. Of these, the most potent against the bacillus and least injurious to the human system is pure carbolic acid. This he does not think should be applied topically, but rather should be given internally. Carbolic acid, he says, is largely excreted by the lungs, and in its passage out the parasite's activity is suppressed and the healing process promoted.

He recommends that the acid be administered hypo-

dermically, and in a considerable experience has never seen any harmful or unpleasant local symptoms develop. His formula is:

℞. Aquæ destillat..... 95.00
Glycerin..... q. s.
Acid. phenic. crystalliz..... 1.00

M. Sig.—Of this, one hundred drops (about gr. ij. of the acid) are injected hypodermically daily, or every other day.

Dr. Filleau states that as much as two grammes of carbolic acid can be administered daily, a dose which would require a very large number of injections. Four cases are reported illustrating the efficacy of this phenic-acid treatment of phthisis. The conclusions reached are: 1st, that carbolic acid is the only anti-parasitic as yet known which can be administered subcutaneously in large doses during an indefinite time without causing accidents; 2d, that under the influence of this medication the general state of the patient is promptly ameliorated, the local state is at the same time advantageously modified; 3d, that the tolerance and harmlessness of the drug thus administered are demonstrated (symptoms of carbolic-acid poisoning may appear, but they always come gradually and are quickly relieved by stopping the medicine for a time); 4th, that the treatment must be continued for a long time.

A NEW EXPECTORANT AND SUBSTITUTE FOR SENEGA.

SENEGA is an old remedy, and one whose virtues have been well established by clinical experience. It, beyond any doubt, has the power of rendering thick mucus in the bronchial tract thinner, and thus more easily expectorated. It is indicated, therefore, in the second stage of acute bronchitis, in emphysema, and in chronic bronchial catarrhs, and bronchial blennorrhœa. It has been given, also, in the resolving stage of acute pneumonia. In these conditions Stokes placed senega at the head of the expectorants. Its use is contra-indicated in phthisis, in febrile conditions, and when the digestion is disordered.

We are told, however, by Professor Rudolph Kobert, of Dorpat, in an article recently published in *The Practitioner*, that of late years the commercial specimens of Polygala senega have been of very unequal quality. The active principles of senega reside in a substance known as polygalic acid, which is in reality a mixture of two other substances both glucosides. The quantity of these glucosides in senega-root is very insignificant, and thus it comes about that one only gets a satisfactory effect when the infusion or decoction is very strong, *e.g.*, 10 or 15 parts in 200 of water. For all these reasons it appears that senega has come to be very little prescribed, and its employment is even entirely abandoned by some physicians.

Professor Kobert announces that he has found that the same active principles which occur in senega are present in another drug that costs only one-fifth as much, viz., the bark of quillaia saponaria. Kobert calls the two glucosides that are usually known as polygalic acid "quillaic acid" and "sapotoxine." He states that it has been found, by clinical investigations in Halle, Strassburg, Freiburg, and elsewhere, that the administration of senega can be very efficiently replaced by that of quillaia.

The therapeutic results, he says, hitherto obtained may be expressed as follows: When expectoration is difficult from the tenacity of the mucus, it is facilitated through the latter being rendered thinner and more copious; at the same time the stimulus to expectorate is increased. It naturally follows that this remedy is not suitable for every case, and that it must not be employed when the urgency to cough and the raw feeling in the throat gets too acute. Vomiting and diarrhœa occur much seldomer than after the use of senega. Any aromatic or simple bitter may be used with it as a flavoring agent. The drug itself contains a large quantity of a sweet carbohydrate, and consequently can be employed in the case of poor persons quite well without any corrective, which is, of course, not the case with senega. The remedy is contra-indicated in cases of ulceration in the throat, or in the gastro-intestinal disturbances, since it is too energetic an irritant for such.

REFLEX NEUROSES FROM NASAL DISEASE.

SINCE the appearance of the monograph of Dr. W. Hack, of Freiburg, on the operative, radical treatment of migraine, asthma, hay-fever, and numerous other related manifestations, which was the subject of an editorial in a recent number of THE MEDICAL RECORD, German literature especially has abounded in confirmatory clinical evidence of the views promulgated by this author.

Hack, Fraenkel, Sommerbrodt, and others, have demonstrated by clinical observations that many hitherto obscure neuroses display a relation to certain conditions mostly found in the mucous covering of the inferior turbinated bone, anteriorly, which enabled them to relieve or cure the former by removing the latter. Among the neuroses referred to, nightmare, asthma, cough, migraine, supraorbital neuralgia, attack of giddiness, epileptiform attacks, hay-fever are the most prominent in the clinical histories furnished by these authors.

The condition referred to as existing in the nasal fossa is not the hyperplastic or inflammatory thickening connected with rhinitis and nasal catarrh, but a puffed and erectile state of the covering of the anterior portion of the inferior turbinated bone or bones due to distention of the cavernous spaces underlying it. The differential diagnosis is not difficult, inasmuch as the latter condition may be recognized by the yielding of the puffed mucous membrane to the gentle pressure of a probe very much as a moderately filled cyst would do, while in the former (hyperplastic) condition pressure will not produce this effect. The degree of swelling varies greatly: it may touch the septum or not, it may yield entirely or partly to pressure of a probe, but it always returns when the probe is removed. This peculiar erectile character is pathognomonic, and may be discovered by any intelligent practitioner who will take pains to look for it.

We refer to the subject again with the view of calling attention to the recent discussion in the Academy of Medicine, of which a report will be found in our columns to-day. It is to be regretted that the diagnosis of these nasal complications and etiological factors was not dwelt upon by the readers, because this is a subject of

great importance to the general practitioner. Indeed, as has been emphasized by one of the speakers, who alone described this peculiar nasal affection, this question is of far greater import to the general practitioner than to the specialist. When a man suffers from migraine, asthma, or neuralgia he will not apply to the specialist but to his family physician for relief. If the latter be not alert and well-informed on the subject of reflex neuroses from nasal troubles he may treat many such cases in vain. If, however, he will in every obstinate case inspect the nasal fossa, he may confer a lasting boon upon the patient by discovering an obscure cause, and either himself removing it or referring the case to a specialist.

It has been found that frequently the nasal symptoms are not well pronounced, hence the necessity of "interrogating" the nose in every obstinate case. We commend the study of the subject to general practitioners and neurologists.

News of the Week.

LIGATURE OF FEMORAL ARTERY UNDER COCAINE.—Dr. Joseph W. Howe ligated the femoral artery for popliteal aneurism, under cocaine, at St. Francis' Hospital, New York, last Tuesday.

THE MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—It is expected that the meeting of the State Society, which will be held in Albany, commencing Tuesday next, at 11 A.M., will be largely attended. More papers have been promised than ever before, and the programme, as arranged by the President, Dr. Vanderveer, and the Business Committee, presents unusual attractions. The sessions will probably be continued through Thursday. Delegates and members desiring reduced rates should communicate with Dr. Manlius Smith, the Secretary, at Syracuse, N. Y.

THE PURITY OF MILK.—The Court of Appeals declares the law constitutional which fixes a standard of purity for milk. The Court of Sessions of Albany convicted the defendant Arthur Cipperly of misdemeanor, charging him with selling adulterated milk, in violation of Chapter 202 of the Laws of 1884. It was selected as a test case, and the decision disposes of the whole subject at once. The General Term had reversed the judgment of the Court of Sessions, and now the Court of Appeals reverses the decision of the General Term and affirms the decision of the Court of Sessions.

A LONG RANGE QUARREL.—The *Therapeutic Gazette*, of Detroit, accused the editor of the Transactions of the *Sei I Kwai*, of Tokio, Japan, of plagiarizing one of the former's articles. The gentleman of the *Sei I Kwai* retorts by asserting that the article in question appeared in his journal four months before it did in the *Gazette*, and gives us "the deadly parallel columns" in both Japanese and English to support his assertion.

NEW YORK POST-GRADUATE MEDICAL SCHOOL.—Dr. Henry J. Garrigues has been elected Professor of Obstetrics; Dr. C. C. Rice, Instructor in Diseases of the Nose and Throat; Dr. F. B. Carpenter, Instructor in Diseases of the Skin.

THE NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN has received a bequest of $10,000 by the will of the late Isaac D. Farnsworth.

THE MAN OF THE DAY.—The Eden Musée, a wax-works museum of this city, announces: "Monsieur Pasteur performing his operation upon one of the Newark children!"

"WHAT MRS. GRUNDY SAYS: 'That the doctor who writes a book gives himself away, by showing that his time is not disturbed by patients.'"—*Evening Express.*

THE WAY THEY DO IT.—The trade in homœopathy is becoming systematized. We have received the announcements of a new up-town homœopath, which furnish a good illustration of how they do it. The announcements in question were mailed to the clergymen, and to the neighbors, friends, and to the business men of the vicinity. First is a card, with name, address, etc., upon it; next is a neatly printed note signed by several homœopaths of neighboring cities, and stating that Dr. X. is a skilful homœopath, and most "solid" in the faith; last comes a folded card, vest-pocket size, containing a brief popular essay on pure homœopathy and its advantages. Address and office hours are conspicuously displayed. The whole makes a very creditable typographical and literary display. No doubt it will bring in many patients.

The significance of it all is that certain men believe that they can succeed by announcing, not that they are physicians, but that they are homœopaths. They trade upon the name as quacks do upon their specially potent pills.

Such men are to be treated like any other quacks. But all men using homœopathy do not resort to these practices. Hence the mistake of damning the whole for the sins of part and thus creating a sentiment of sympathy which does so much to keep homœopathy as a distinct form of dogmatic medium alive. The Homœopathic County Society should discipline this man.

DR. JONATHAN CASS, of this city, died on January 22d, at the age of sixty-one years. He was graduated from the Albany Medical School in 1855–56, and commenced the practice of medicine at Great Barrington, Mass. When the war broke out he entered the army as surgeon, and served four years. In 1870 he came to New York, where he had lived ever since.

DEATH OF DR. MCALLISTER, OF MARION, ALA.—Dr. W. T. McAllister, a prominent practitioner of Marion, Ala., died of phthisis, January 13, 1886, aged fifty-six years and eight months.

GERMAN PHYSICIANS AT ST. PETERSBURG.—The profession at St. Petersburg has been somewhat excited by some selections which have recently been made to some rather coveted hospital appointments. The question of nationality has been rather unpleasantly obtruded, the "thorough Russians" complaining that they are being elbowed out by Germans, and their opponents retorting that there are many hospital superintendents whose names are German, and who may be of German descent, and even speak German at home, but they are all bound to be Russians.

Reviews and Notices.

CLIMATOLOGY AND MINERAL WATERS OF THE UNITED STATES. By A. N. BELL, A.M., M.D., Editor of *The Sanitarian*, Member of the American Medical Association, American Public Health Association, American Climatological Association, Medical Society of the State of New York, Kings County Medical Society, N. Y., Honorary Member of the Connecticut Medical Society, Corresponding Member of the Epidemiological Society of London, formerly Passed Assistant Surgeon United States Navy, etc. New York: William Wood & Co. 1885.

THIS book forms the October number of Wood's Library. It contains a vast amount of statistical information concerning the climate of different portions of our country, and also gives the composition of all the mineral spring waters used in medicine. It is a source of astonishment, to one who reads this work, to see the great variety of climate which the citizens of this republic enjoy or suffer under, and he cannot but wonder that it should ever be thought necessary to send consumptives or other patients to Europe, when precisely similar meteorological conditions are to be found in our own country. The subject of climatology in general, than which nothing is regarded by the ordinary reader as drier, is here presented in such a shape as to be almost interesting.

DIAGNOSIS OF DISEASES OF THE BRAIN AND OF THE SPINAL CORD. By W. R. GOWERS, M.D., F.R.C.P., Assistant Professor of Clinical Medicine in University College, Physician to University College Hospital, and to the National Hospital for the Paralyzed and Epileptic. New York: William Wood & Co. 1885.

THIS volume contains the substance of the lectures delivered by the author at University College Hospital, London. The first three lectures of Part I. are devoted to a consideration of the anatomy of the brain. Then follows a review of the symptoms of cerebral disease arranged under the different headings of motor and sensory symptoms; those connected with the organs of special sense, and the affections of speech; and in the concluding lectures the diagnosis of the diseases of the brain is treated of at length. In Part II., which is much shorter, the same general order of subjects is followed, although the division of the work into separate lectures is not adhered to. Illustrations are introduced wherever they serve to elucidate the text. The book is one that will well repay perusal, and no one who reads it can fail to learn something. It forms the concluding (December) number of Wood's Library for 1885.

VENEREAL MEMORANDA. A Manual for the Student and Practitioner. By P. A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases in the University of the City of New York; Surgeon to Charity Hospital; Attending Surgeon to the Bellevue Hospital Out-door Relief, Department of Skin Diseases, etc. New York: William Wood & Co. 1885.

THIS little volume, one of Wood's Pocket Manuals, contains a large amount of practical information in very condensed form. It is not a good work for a student who is commencing his studies, but for one who has finished his preparatory course and is making a hasty review for examination, it will be of the greatest service. It is an excellent guide also for the general practitioner who has no time to study voluminous treatises, but who may wish to refer to some special point in the diagnosis or treatment of one of the venereal diseases. He will find here just what he wants, and will find it expressed clearly and well.

THE DOCTOR AHEAD.—"If I were so unlucky," said an officer, "as to have a stupid son, I would certainly make him a doctor." "Well," said a doctor, who was in the company, "you think differently, sir, from your father."

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 25, 1886.

DANIEL LEWIS, M.D., PRESIDENT, IN THE CHAIR.

Dr. ROBERT ABBE read a paper entitled

THE ADVANCED METHOD OF RADICAL CURE OF HERNIA.

The major cutting operation for the radical cure of hernia is as old as the history of surgery, but some textbooks have mentioned it only to condemn, and have echoed the aphorism of Petit, that "nothing justifies operation on a hernia, except strangulation of its contents."

From the date of the Berlin Congress, in 1879, when Czerny reported six cases cured by the open operation under antiseptics, there have been scores of names enrolled in many countries sanctioning the method. In this country, however, the operation has not even yet been practised widely. It was opportune, therefore, to look into the value of the open method and its advantages.

The favorite course pursued in the "open method" of operating consists of cutting down to the sac, while it is distended with gut, stripping it clean of all cellular layers and the elements of the spermatic cord, so that the sac and its contents are lifted out of the scrotum and the fingers can be slipped along the neck of the sac into the ring; then reducing the hernia and carefully slitting open the sac, inspect its interior, sweeping the finger around the abdomen, within the canal, to discover adherent bands; then pass a heavy catgut ligature around the neck of the sac as high as within the ring, if possible, tie the sac off, and cut away below the ligature. After this has been done, approximate the pillars of the ring tightly, leaving only room for the exit of the spermatic cord; most surgeons use heavy catgut for this.

These details vary with circumstances. If the bowel is adherent to the lining of the sac by recent adhesions, it may be stripped off; if old adhesions hold it, the sac is to be cut away nearly to the intestine, and its edges stitched together. The Liverpool surgeons use silver wire instead of catgut for closing the pillars of the ring. Keetley, of London, after exposing all the parts, injects into the cellular tissue of the canal, and rubs into the loose cellular planes, the Heaton fluid, and then brings the pillars of the ring together over that with catgut.

Dr. Abbe then gave briefly the notes of *twenty-one* cases which had been under his personal care. Of these *sixteen* were operated on when not strangulated, and five when seriously so. In each, however, an attempt was made to secure a radical cure by the latest methods.

The results admitted of the following comments: *First*, is the open operation a safe one? and *second*, does it effect a radical cure?

If we accept the statistics of the Liverpool surgeons, with 125 successive cases without a death, and four-fifths of them successful in the result, it must be admitted that it is safe; but no one else has obtained such results.

The proportion of fatal results following the open method in the hands of the best operators makes it about one in eight. This means, probably, that only the worst and most dangerous cases have as yet been induced to submit to the operation, and serious complications are here encountered, such as adherent intestine, feeble patients with fatty hearts, etc. Hemorrhage has happened to the best operators everywhere. An omental pedicle is specially liable to accident, because it is a mass of fat which wastes quickly, and allows the inner folds to slip out from the grasp of the ligature. This can be overcome. Septic peritonitis, erysipelas, and hospitalism have been driven to the wall by clean antiseptic work.

As regards suppuration, Dr. Abbe had frequently been disappointed in finding hernial wounds suppurating when

heavy sutures had been applied to the ring, especially silver-wire and silk. But on the whole, although we dislike to have it occur, he was strongly of the opinion that union by granulation sealed the canal and matted together the ring tissues in a much more secure way than primary union did, and that return of the rupture was less likely to occur. In any case, however, after the operation the patient should support the part from without for many weeks, perhaps for months, to insure permanent relief.

As regards return of the hernia, he thought it extremely probable that in most cases there would be partial recurrence within one or two years; much less likely to follow femoral than inguinal hernia.

This, however, is no sign of failure of the operation, for it almost invariably restores the patient to working power, and from complete invalidism to comparative health. He had yet to see a patient who was not loud in praise of what had been afforded by the operation. His belief was that in simpler cases of small but annoying herniæ, where the patient could be kept on his back for a month and watched afterward, the open operation had a large field of usefulness; while to the sufferers from incarcerated omental masses and ever-recurring intestinal herniæ it was an undoubted boon. He also agreed with Keetley in the opinion that it was safer and more sure to cure in femoral hernia, especially when there is adherent omentum; and it is in these cases especially that the danger of strangulation is greater (eight to one) than in the inguinal hernia.

Dr. A. G. Gerster said he could agree with almost all that had been stated by the author of the paper.

His experience included twenty-five cases, in which he had, in addition to herniotomy, performed the operation for radical cure. In eight cases he had performed the operation for radical cure where there was no strangulation, but the symptoms demanded that something should be done to improve the condition of the patient, if possible. In the cases in which the abdominal rings were not very large the best results had been obtained. Under antiseptic precautions he regarded the operation as a safe one. So far as results were concerned, the appellation "radical cure" was a misnomer, as relapse occurred unless a truss was worn—although a very light truss might be all that would be required. He regarded the cicatricial plug as more efficient than primary adhesion.

Dr. R. F. Weir had operated in eight cases unaccompanied with strangulation. For large irreducible herniæ he regarded the open operation as a good one; also for reducible herniæ which had existed so long that practically the rings are one, and where Heaton's method cannot be applied or has failed. In two or three of his cases suppuration and constitutional disturbance were considerable, but they terminated favorably and without peritonitis. Dr. Weir, however, had not lost faith in Heaton's method, and while he could obtain success in from one-third to one-half of the proper cases by its use, he should be unwilling to extend the cutting operation to these cases.

Dr. O. A. White exhibited an instrument which he devised about the year 1858, and which he had used successfully in a great many cases for the cure of hernia. It was a modification of Wurtzer's plug and transfixion pin, and had *two* needles, and weighed only half an ounce. The scrotal sac is inverted, the needles plunged through, and the whole secured in position by a ligature thrown around two side clamps; it is allowed to remain in position about four days.

Dr. Abbe, in closing the discussion, said that history had not recorded any harm done by transfixion-needles, and yet it was difficult, when the parts were exposed by operation, to see how they could be used safely. He thought the open method best, because the operator could see what he had to deal with. He thought that the tendency would be to change the opinion now held largely by surgeons, if it should be found that further statistics sustained the "open method" of treatment.

Dr. P. A. Morrow then read a paper on

THE DIAGNOSIS OF SMALL-POX,

in which he gave the features of a typical case of small-pox, and its differential diagnosis from measles, varicella, syphilis, papular eczema, lichen febrilis (classed as eczema), sudamina, pemphigus, herpes, erythema and urticaria (papular forms), and acne (produced by drugs and otherwise).

The paper closed with remarks on vaccination and reference to small-pox not necessarily extinguishing the susceptibility to vaccination.

Dr. McLaury referred to a paper recently read by Dr. P. C. Cole, in which the writer stated that variola frequently occurred the second time, and that it was as necessary to be vaccinated after having small-pox as before; these statements were based upon observations made in the army.

Dr. Sell mentioned a case in which Hebra and Kaposi mistook syphilis for small-pox.

Dr. Mittendorf spoke of a case where the diagnosis of small-pox was made, the patient sent to the Island, but which turned out to be a case of syphilis; and the patient had double iritis develop while in the hospital which terminated in total loss of vision in the right, and nearly complete loss of sight in the left eye.

Dr. Vineberg spoke of the prodromal rashes, occurring mostly on the inside of the thighs, as characteristic of small-pox.

Dr. A. B. Judson mentioned a case in which the diagnosis of small-pox was made, but which proved to be a case of acne in which relapsing fever occurred.

Dr. Abbe referred to the differential diagnosis of small-pox and varicella, and said that in a special case Dr. Taylor, of the Health Department, based his diagnosis on the fact that in varicella the vesicle is cuticular largely, and that the vesicle of variola springs from the deeper tissues.

Dr. Morrow said that the prodromal rashes were very uncertain, being absent entirely in some epidemics. With regard to the point mentioned by Dr. Abbe, he hardly thought that any one could safely discriminate between varicella and small-pox by simply inspecting with reference to the superficial and deep-seated character of the vesicles.

Under the head of

NEW BUSINESS,

Dr. P. A. Morrow was elected delegate to the Medical Society of the State of New York, to fill the vacancy caused by the resignation of Dr. W. T. Alexander.

Dr. G. M. Smith gave a brief outline of the history of the action of the Society and the Academy of Medicine concerning contagious eye diseases, and offered the following preamble and resolutions, which were adopted.

Whereas, Contagious ophthalmic disorders in asylums and residential schools seem to have become almost permanently attached to many of these institutions, though at times prevailing to a greater extent than at others;

Resolved, That the Medical Society of the County of New York deems it necessary to invoke legislative action in order to eliminate the causes of disease which are temporarily, and often permanently, injuring the welfare of the occupants of such Asylums.

Resolved, That this Society endorses and recommends to the Legislature of the State of New York, the law drafted under the auspices of a Committee of the New York Academy of Medicine, and subsequently approved by the Academy—the law being denominated "An Act for the Better Preservation of the Health of Children in Institutions."

The President announced that the initial steps had been taken for the publication of a Register of the medical profession of the county, and that it would probably be ready for distribution early in May next.

The Society then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 23, 1885.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

MULTIPLE STRICTURE OF THE URETHRA—PERINEAL ABSCESS—ABSCESS OF THE KIDNEY.

DR. WACKERHAGEN presented a male genito-urinary apparatus which showed laceration of the mucous membrane of the urethra, a false passage, and between the urethral laceration and the prostate behind an abscess cavity, two and a quarter inches wide, two inches long, and containing a large ragged slough. The cavity of the bladder was about the same size as that of the abscess. The ureters were slightly dilated. Pus had been traced as high as the right renal pelvis; the left kidney contained abscess cavities. The specimens were removed from the body of a Scotchman, forty-six years of age, who twenty years ago suffered from gonorrhœa which was followed by no noticeable sequelæ. A few months before death there was increased frequency of micturition. Examination of the urine was negative. Last July he had a perineal abscess, which, as near as could be learned, began its formation three months previously, when he noticed a slight perineal swelling. About the middle of November last Dr. Wackerhagen saw the patient in consultation, when there was almost continuous dribbling of ammoniacal urine through the perineal sinus. There was phimosis, three urethral strictures, and a contracted meatus urinarius. He advised circumcision and internal urethrotomy, which were performed. The general condition of the patient for a time improved, and he was occasionally sounded afterward for the purpose of keeping the divided strictures dilated. Nine days after the internal urethrotomy external perineal urethrotomy was performed. The patient died eight days after the operation. His temperature was normal throughout his entire sickness, until within a few days before his death, when, without chills, the temperature rose, 102° F. being the highest.

THE PRESIDENT said the case was especially interesting to him as he at present had one of urinary fistula under observation, with an abscess in front of the rectum, giving identically the history related by Dr. Wackerhagen, except that the patient has had chills. The urine is now being discharged through an opening in front of the scrotum, and pus posteriorly. The patient is also emaciated to an extreme degree.

DR. WACKERHAGEN said his patient was so extremely reticent that he probably would not have said anything about the chills if he had had any.

DR. L. EMMETT HOLT presented specimens from two cases that were specially interesting in point of contrast. One patient during life had shown many symptoms of tubercular meningitis, but the organs showed at the autopsy no evidence of tubercle. The second case was one of latent tuberculosis, the patient being apparently in good health until three days before death. Both patients were observed in the New York Infant Asylum, and acknowledgments were made to Dr. Thelberg, the resident physician, for particulars in the histories.

MENINGITIS (?)—CROUPOUS DYSENTERY.

CASE I.—N. B——, male, aged fifteen months, a rather delicate child, began to show marked symptoms on November 7th. The child had been wet-nursed until a few days before. Nothing was known of the family history. Had made no attempt to walk, had only four teeth, the fontanelle was widely open, and other signs of rachitis were fairly marked. He was taken with a temperature of 102° F., and for six days it ranged between 101° F. and 104° F., falling only once below 100° F. During this time he was very drowsy, lying for the greater part of the time in a stupor from which he could be only partially roused. He was constipated, but never vomited. The pupils were at times dilated but always responded to light, though sluggishly. There was frequent nystagmus and almost constant grinding of the teeth. He had at times a tendency to opisthotonus, and once twitching of the right face was noted. The pulse was very weak, for the greater part of the time imperceptible at the wrist, and from 120 to 140 per minute. The respirations were from 20 to 50, and often irregular.

The fontanelle was depressed, and the extremities cold, unless artificial heat was kept applied. The abdomen was not retracted. His drowsy, semi-stupid condition alternated with one of irritability.

He took medicine, food, and stimulants well. During the second week of his illness, until November 21st, his fever gradually subsided, and the temperature was occasionally subnormal, once 95° F. in the rectum. From these attacks of collapse nothing roused him so promptly as oxygen.

His treatment up to this time had been ice-bags to the head, hot bottles to the feet, sodii bromidi, gr. iv., and potass. bromidi, gr. viii., every two hours. It was continued. He now began to improve slowly, was less drowsy, took a little notice of the children about him. His face looked not quite so pinched. The pulse was still very feeble and often irregular. He was not so irritable. Had cut two teeth. By December 5th his cerebral symptoms had nearly disappeared. His drugs had been kept up, as symptoms were invariably worse when they were omitted.

His temperature did not rise above 100° F. He was still very weak and had grown quite thin, but was able at this date to sit propped up in a chair, and once laughed aloud. During the week following he gained nine ounces in weight. On December 11th he was taken, without apparent cause, with all the symptoms of acute dysentery, from which he died on December 19th. The temperature was high, reaching 105° F. or over every evening. Six grains of antipyrine, in divided doses, given within an hour, were administered several times with the most gratifying results in reducing the temperature and allaying the restlessness, without depressing the pulse.

The passages were from six to ten in twenty-four hours; in the beginning they contained much blood. Only once was anything resembling membrane noticed.

Several times, when apparently *in articulo mortis*, he was revived by the free use of oxygen, and it seemed as though there was quite a reasonable prospect of recovery. He sank steadily and died of exhaustion. Decided improvement in the stools was obtained by the use of enemata of acid. tannic., gr. xx., repeated every four hours.

Autopsy, thirty-six hours after death.—Body quite emaciated. Brain: A little more congestion than is usual was found in the meninges. There were some slight adhesions between the dura and pia, on the under surface of the frontal lobe. The pia was opaque and cloudy in two or three small patches over the convexity, but no other traces of recent or old inflammation were discoverable, and no tubercles, though they were carefully sought. Thorax: The lungs showed slight hypostatic congestion and a little recent bronchial catarrh; bronchial glands normal. The heart was pale and seemed rather small for the age. Its walls and valves were normal. About a drachm of clear serum in pericardial sac. Abdomen: Stomach a little dilated, and contained undigested food. Nothing abnormal seen in it or in small intestine till the lower part of the ileum was reached; here was the very slightest degree of congestion and swelling of Peyer's patches. Beyond the ileo-cæcal valve the whole gut was the seat of marked changes. These were most intense in the cæcum. The wall of the intestine was three or four times its normal thickness. The mucous membrane was of a greenish-gray color, and was covered with a false membrane, which could be stripped off in

patches. This membrane existed in the ascending colon, but was not seen beyond the hepatic flexure. The rest of the colon and the rectum were of a pale red color, showing marked thickening and enlargement of the solitary follicles, but no ulcers. The small intestine contained normal yellow fæces; the large intestine greenish mucus and fæces, but no blood. Recent lymph covered the meso-cæcum, but the peritoneum was elsewhere normal. The mesenteric glands were enlarged from infiltration of cells, but showed no tendency to cheesy-degeneration. Liver: Size normal; weight nine ounces; a little firmer than normal. Its surface showed white glistening streaks. On section a mottled, reddish-white appearance, not very well marked. Spleen: Nearly twice normal size; weight two ounces; moderately congested; firm. Malpighian bodies not specially prominent. Kidneys: Weighed together one and a half ounce; cloudy swelling of the cortex.

Microscopical examination was made of the large intestines, liver, and kidney. The intestines showed the usual appearances of croupous dysentery seen in the adult, except the presence of ulcers of any considerable size. The false membrane was made up of coagulated fibrin, which covered the surface of the mucous membrane and infiltrated the spaces between the crypts of Lieberkühn, causing considerable compression, but nowhere sloughing. The submucous coat showed a large amount of cell-infiltration, and some fibrin. The solitary follicles were distended everywhere, and many had ruptured, forming small ulcers. The liver showed a perceptible but not very marked increase of connective tissue through its whole substance, with areas of anæmia, and others with slight fatty changes. In the kidneys nothing beyond swelling of the epithelium, and a slight amount of infiltration with leucocytes in scattered areas.

The pathological appearances of the different parts of the large intestine showed, quite conclusively, the beneficial effects of the treatment by injections. In the lower part of the bowel, where the changes are usually the most marked, the mucous membrane presented the least changes, the marked thickening only remaining to show that there had been an active process going on, the severity of which was past. The injections used do not seem to have been large enough to reach the ascending colon and cæcum.

GENERAL TUBERCULOSIS WITH LATENT SYMPTOMS—TUBERCULAR MENINGITIS.

CASE II.—The patient was a female child, aged seventeen months; had been in the Institution only six weeks. The family history was not very clearly tubercular. The father was reported to be suffering from "lung trouble," with considerable cough and expectoration. The mother had had suppurative adenitis in the neck and axilla, the scars of which were still present. Otherwise the history on neither side suggested tubercular diathesis. The child had measles at five weeks, but never any other acute illness. A cough for a long time had existed. On admission the child was rather poorly nourished, quite rachitic, and seemed to be suffering from a recent mild bronchitis. There were some coarse râles scattered through the lungs, the respirations were 64, and pulse 140. The temperature was kept for a few days, but as it did not rise above 100° F. in the rectum it was discontinued. Under a generous diet and the use of cod-liver oil and tonics the child improved very markedly in the next month. She gained in weight, improved in general appearance, the appetite was good, and she got strong enough to push a chair about, which she had never done before. The child was examined with some degree of care with reference to the rickets about ten days before she died. The muscles were then a little flabby, there was pot-belly, an unduly opened fontanelle, and relaxation of the ligaments of the lower extremities, but no cachexia, or anæmia even, and nothing to suggest any serious disease. She had no pulmonary symptoms, and the condition of the lungs was not investigated. She had always been inclined to constipation.

She continued without any perceptible change in symptoms until December 17th, when she was seized with a general convulsion, and the temperature rose to 101.8° F. From this till death, on the morning of December 20th, the convulsions were repeated once or twice a day. The temperature ranged from 99° F. to 102° F., never rising above the latter point. The respirations were about 50 a minute. An examination of the chest was made by the resident physician, and marked dulness found along the spine on both sides. The child was so excited that nothing satisfactory was made out on auscultation. There was only slight cough. The bowels were loose. The treatment was directed to the cerebral symptoms, but was without effect. She died a few hours after having had a convulsion.

Autopsy forty-eight hours after death. Brain: There was moderate congestion of the meninges; at the base along the fissures a few scattered miliary tubercles were seen, but no lymph or pus. The pia was somewhat adherent in places. There was no excess of fluid in the ventricles. Lungs: There were firm, old adhesions over the left lung anteriorly and at its base; none of the right side. The posterior portion of the right lung, middle and lower lobes, was in a state of collapse, uniformly smooth, of a dark red color, non-crepitant, and sank in water. It could be inflated with moderate force. The rest of the lung was emphysematous, and showed miliary tubercles very sparsely scattered over its surface, but no other changes. The upper lobe of the left lung was the seat of extensive disease. Its lower half was consolidated, and on section a small cavity was found in the mammary region, containing one or two drachms of pus. The adjacent lung-tissue was studded with yellowish nodules, varying from a very small size up to that of a bean. The rest of the lobe was studded more or less closely with tubercles, which seemed more recent, while the consolidation below was tough and apparently largely fibrous. The lower lobe, like the right lung, showed extensive collapse behind some emphysema, and a very few tubercles. All the bronchial glands were enlarged, several to the size of a hazel-nut, and one or two were broken down and cheesy at their centres. Heart and pericardium were normal. Liver enlarged, very fatty; weight, twelve ounces. Spleen full, three times usual size; weight, three ounces. Malpighian bodies very prominent. Kidneys showed slight cloudy swelling of the cortex. A few miliary tubercles were scattered over the surface of all these organs. Mesenteric glands were all enlarged, the largest being nearly an inch long. None were cheesy. No tubercles seen in the peritoneum.

There was catarrhal swelling of the mucous membrane of the large intestine, particularly in the cæcum and rectum, and the solitary follicles were prominent. Peyer's patches were slightly infiltrated, but there was no ulceration.

Microscopical examination was made of the lungs, and bronchial and mesenteric glands. The firmly consolidated areas were found to be made up almost entirely of new fibrous tissue. In this were imbedded a good many tubercles, mostly caseous, containing numbers of giant cells. The collapsed portions were free from tubercular changes, and showed almost no evidence of inflammation in the alveoli, the interstitial tissue, or the bronchi. The vessels were considerably thickened. The bronchial and mesenteric glands exhibited the various stages of tubercular infiltration and caseation, and contained, like the lung, many giant cells.

The process in the lung was then an old one, probably of many months' standing; after being quiescent for some time it suddenly took on renewed activity, and became the focus for general infection.

DR. PUTNAM JACOBI asked if it was not possible that the cerebral functional disturbance in Dr. Holt's case was due to the cirrhosis of the liver.

DR. HOLT thought that such was hardly the case. During the period of cerebral symptoms the child got four doses of quinine, which might be an element in forming an estimate of the significance of the symptoms, and it was also to be noticed that during the existence of the cerebral symptoms dentition was going on very actively.

DR. PUTNAM-JACOBI remarked that dentition was to be regarded as a disturbing element only in rachitic children.

DR. AMIDON said it was his firm belief that some cases of tubercular meningitis recovered, and he referred to one under his observation, in which recovery took place during the use of heroic doses of iodide of potassium. In that instance there was diplopia, frontal headache, facial paralysis on the right side, excessive photophobia, and maniacal disturbance at night. The patient was an adult, and was in a condition of advanced phthisis, probably tubercular in character, and although her condition was not such as to justify heroic treatment, she was treated by the administration of about an ounce of the iodide of potassium in twenty-four hours. The patient recovered entirely from the cerebral symptoms, and at the autopsy, the patient dying some time afterward, not a trace of meningitis could be found. He had always regarded it as a case of tubercular meningitis cured. The patient gave no history of syphilis, and she had well-marked pulmonary tuberculosis.

DR. VAN SANTVOORD remarked that in the case of children, marked cerebral symptoms were very frequently coincident with other disturbances, and he had been so frequently disappointed with reference to diagnosis and post-mortem changes that he had refrained from making a diagnosis until he saw the lesion in the dead-house.

DR. PUTNAM-JACOBI said that the proximate cause of symptoms in tubercular meningitis was hyperæmia of the meninges and softening of the gray matter around the tubercles and immediately under the meninges. Thus we might suspect tubercular meningitis, and it might be simulated by any cause which would produce hyperæmia of the meninges.

DR. VAN SANTVOORD had been struck with the extreme latency of the course of tubercular meningitis. He recalled one case particularly, in which the process was of weeks' and even months' duration, and gave rise to marked cerebral symptoms only a few days before death.

DR. J. C. PETERS said he had never seen a fatal case of tubercular meningitis unless there was evidence of tubercules in other organs, and he also thought it was exceedingly rare for recovery to take place if there was tuberculosis elsewhere.

DR. AMIDON remarked that a very trifling lesion in the brain could kill a patient, and that he had been obliged sometimes to hunt with a lens in order to find the lesion which was the cause of death.

DR. HOLT said it had always seemed to him unfair to assume that because a patient recovers it was not a case of tubercular meningitis; because we see recoveries from tuberculosis elsewhere, as in tubercular disease of the bones and pulmonary tuberculosis, and therefore we should never hesitate to attack one of these cases with the hope of curing it.

DR. VAN SANTVOORD asked if in cases of recovery from pulmonary tuberculosis and tubercular disease of the brain, Dr. Holt would not expect to find some lesion at the autopsy?

DR. HOLT said he did not wish to imply that there was no lesion, but that some trace of the disease would be found.

DR. PUTNAM-JACOBI remarked that, according to recent observations, iodide of potassium was not regarded as a very heroic remedy in tubercular meningitis.

THE PRESIDENT said he was acquainted with a case in which the patient, a man forty-three years of age, was now under Dr. Janeway's care, who considers that he is suffering from tubercular meningitis, and has been for a considerable length of time. The Society had already been made familiar with a part of the history of the case in the fact that it was one which illustrated the ready production of albumen in the urine by any active mental agent.

DR. PRUDDEN thought it was dangerous to draw an analogy with reference to tubercular meningitis from the healing of lesions in the lungs, because the only way in which the pulmonary cure is effected is by the process going on into the condition of fibroid degeneration. As to tubercle, it is now regarded as due to the presence of a bacillus, which produces inflammation of the tissues which goes over into fibroid change.

DR. HOLT would like to direct attention to the occurrence of simple dysentery in young children. This was the third autopsy which he had made within two weeks in which there was simple dysentery disconnected with any other lesion in the intestine. Goodhart states that simple dysentery is extremely rare apart from lesion of the small intestines. In the two cases mentioned, the dysentery was largely follicular.

DR. VAN SANTVOORD had seen considerable dysentery in children, but it had usually been follicular; indeed, he did not recall a case in which he had seen croupous dysentery.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 21, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

REFLEX SYMPTOMS IN NASAL AFFECTIONS.

THE discussion on the above subject was introduced by the Section in Ophthalmology, through a paper read by DR. E. GRUENING (see p. 122).

DR. THOMAS A. MCBRIDE continued the discussion as follows: "I shall ask your attention briefly to a report of five cases of reflex disturbance arising from nasal disease.

"CASE I.—L. D——, aged twenty-four, consulted me in the spring of 1882, for migraine. Since 1880, he had been having attacks of migraine, occurring first every six or eight weeks, and within the last winter, 1882, the attacks had become more frequent. He gave a very classical description of the seizures. He is awakened in the morning with pain over the left eye or left parietal eminences, and this increases in intensity as the day passes, occasionally being accompanied early in the attack by 'zigzags,' or 'fortification lines,' of red, green, and white colors, and sometimes hemianopsia. There is also much nausea and some vomiting. The attack lasts usually about eighteen hours, and the next day he is completely prostrated. His family history is decidedly neurotic. I regarded his case as a very characteristic one of migraine.

"After paying due attention to his diet, and regulating his mode of life, and exercise in open air. I placed him upon arsenic and extract of cannabis indica. The extract of cannabis indica was increased from one-fourth of a grain to half a grain within a few weeks, and this he continued to take for some fourteen months.

"The seizures were certainly diminished much in frequency, and occurred about once in two months, and occasionally not for ten weeks.

"At the end of fourteen months he thought that the cannabis induced nausea, the arsenic had been discontinued after a use of some six months. He complained of a constant feeling of nausea, and besides of a strange sensation in his head, which he could not describe or express. His efforts in description reminded me very much of those made by patients to describe the aura of epilepsy, especially the aura of psychical epilepsy.

"The cannabis could not be held responsible for this symptom, but inasmuch as he had so great a repugnance to taking the drug he was placed upon bromide of sodium, a large dose being taken at bed-time, and a small quantity, grs. x., with caffeine, grs. iij., being taken three times a day.

"The attacks of migraine recurred at the intervals of about two months, but the feeling of nausea remained and was almost constantly present.

"Early in 1884 he went abroad and accidentally came under the care of Dr. Hack, of Freiburg. Dr. Hack recognized the existence of post-nasal catarrh, and regarded that as the cause of the nausea, and possibly of the migraine. The patient was under treatment for one month, and since then has been entirely free from migraine and nausea.

"CASE II.—Master C——, aged ten and one-half, of neurotic antecedents. For several years has had more or less headache, and this has been so persistent and so severe as to interfere with his schooling, and for some months (1885) he has been kept out of doors, away from all books and confinement. He located his headaches over the upper part of the forehead. Searching for a cause of the headache, I referred him to Dr. Gruening for examination of his eyes. Dr. Gruening had made a thorough examination of his eyes and found nothing abnormal in these organs to account for the boy's headache. He suggested that the headaches might be due to the morbid processes then active in the nasal passages. I referred the boy to Dr. Lefferts, and by appropriate treatment the nasal affection was cured, and since then no headaches have appeared.

"In a note to me this morning, the boy's father states that he has been entirely free from headaches, except now and then, when they seem to be due to excessive exertion or fatigue.

"CASE III.—Miss R——, aged twenty-six, of neurotic antecedents. For the last three years or more has suffered from severe attacks of headache and also from supra-orbital neuralgia. The headache was accompanied by the neuralgia, but headache and neuralgia often occur separately. Both neuralgia and headaches occurred at irregular intervals, but the headaches always came on when she was menstruating, and as a rule the neuralgia accompanied it.

"The headache was located over the upper part of the forehead, verging toward the vertex, and was also located either over one parietal or to the parietal eminences.

"The neuralgia usually affected the left supra-orbital branch, sometimes both, sometimes only the right.

"The attacks began usually in the morning and were accompanied often with nausea, sometimes vomiting. There was no disturbances of vision. The patient suffered from lithæmia, complained somewhat of nasal catarrh, and, as she was fond of music, was over-anxious in regard to her voice, which she thought was affected by the nasal catarrh.

"Dr. Gruening examined her eyes and found, I believe, slight hypermetropia, which was corrected.

"I referred her to Dr. Lefferts for treatment, and after he had cauterized a few times the hypertrophied mucous membrane of the inferior turbinated bones very great improvement was observed as regards her headaches and neuralgias. Since the completion of the treatment of the nasal condition she has been entirely free from all headaches and neuralgia.

"CASE IV.—Mrs. R——, aged fifty. For many years had attacks of hemicrania at time of menstruation. Since the menopause, which occurred at forty, the attacks of hemicrania have appeared at intervals of two to six weeks. For the last ten years she has suffered very much from hay fever. Last August she placed herself under the care of a rhinoscopist in a neighboring city, and the result has been that since the treatment she has had no return of the hay fever, and has had no attacks of hemicrania.

"CASE V.—Mrs. B——, aged thirty-six. At intervals in her married life, when she has been in poor health, she has complained of difficulty in swallowing liquids, and of regurgitation of food into the mouth. This regurgitation takes place sometimes immediately after swallowing, sometimes not for twenty minutes or longer after the food has been introduced into the stomach. Oser has described this condition under the head of Rumination or Merycismus, in his lectures on 'Die Nervosen des Magens.' Four years ago she was under treatment for post-nasal catarrh abroad, and now suffers more or less from the same trouble. Three weeks ago she came under my care. She was anæmic, and had evidently some gastric catarrh. I ordered for her tonics, arsenic and iron, and dry diet. On the 12th it occurred to me to suggest the use of a spray of cocaine, four per cent., to the nasal passages, and since then she has been entirely free from the difficulty of swallowing and the regurgitation. The treatment in this case is of too recent a date for one to predicate the result as due to the effect of the cocaine spray apart from the psychical effect, since we know that this condition of rumination or merycismus is often present in hysteria, and this patient, although without the positive signs of hysteria, had a tendency to it.

"I have not referred in the above cases to the condition of the nasal passages, which has been assumed to be the exciting cause of the nervous disturbances, for the reason that I was not competent to do so. When asked to make this communication I objected, thinking that it would be better if the report came from the rhinoscopists—the specialists to whom the cases were referred for treatment. I can, therefore, say nothing in regard to the condition of the nasal passages which were accompanied by reflex disturbances. I have not reported cases of asthma, or certain cures of dry bronchitis, for the reason that such cases are acknowledged to-day to be of not unfrequent occurrence."

DR. BEVERLEY ROBINSON continued the discussion (see p. 120).

DR. GOODWILLIE presented three wax models, which illustrated the morbid conditions found in (1) a case of deviation of the septum, with hypertrophy of the mucous membrane covering the turbinated bones; (2) a case of complete closure of one nostril, and (3) a case of "hay fever," in which there was a decided hypertrophy of the nasal mucous membrane over the turbinated bones.

In all these cases the patients received marked relief from the reflex symptoms by the removal of the abnormal conditions in the nasal passages, which was readily accomplished by means of revolving knives, worked with the dental engine, and by the aid of the galvano-cautery.

DR. BARUCH referred to six cases which he had treated successfully by treating the mucous membrane of the nasal passages; one of reflex cough, two of headache, one of peculiar reflex pain in the throat, and one of asthma. He used the galvano-cautery. Dr. Baruch thought the matter of diagnosis was simple, as the enlargement of the lower turbinated body could be readily recognized, the only difficulty being that the swelling was sometimes absent temporarily; in such cases it could be readily restored by irritation with the probe.

DR. H. SCHWEIG said that while the galvano-cautery, when properly used, would give brilliant results, it was an agent which by no means could be easily used by those unaccustomed to manipulate in the nasal passages. To be most successful the cavernous tissue should be destroyed, but not at the expense of the secreting surfaces, and the destruction should by preference be made from within outward. Employ only a dull-red heat, puncture the cavernous tissue, and through the small opening sweep the instrument around beneath the surface, and the best results will be secured.

THE PRESIDENT alluded to a large number of obser-

vations which he made some twelve or fourteen years ago, and, so fara s he knew, reference to similar observations had not anywhere been made.

These observations related to the influence of catarrh, hypertrophy, and other changes affecting the nasal and pharyngeal cavities, on other parts of the nervous system not mentioned in the present discussion.

It was well known that a large number of little children, half-grown, and grown-up people have peculiar bad habits, so called, of winking, frowning horizontally and vertically, drawing up the nose, twitching different parts of the face, shrugging the shoulders, one or both, etc. Such cases are frequently set down as due to bad habit, but they should be studied with reference to the origin of these irregular movements. It had always seemed to him that it was not natural for a little boy to make these motions without some occasion; the cause, however, cannot be so easily determined.

Some of these cases appear to be local chorea minor, and in several instances he had seen the movements terminate in *general* chorea minor.

About twelve years ago his attention was first drawn to the occurrence of hemicrania, left or right, when there is chronic pharyngitis and amygdalitis, by a small pamphlet written by Lorent, of Bremen, who associated these conditions. Dr. Jacobi found that the observation was correct with reference to a number of cases, and from that time he had studied all cases of chronic nasal and pharyngeal catarrh with swelling of the lymphatic glands, and had found that, in hundreds of cases, the local chorea, the involuntary convulsive contractions, or contractions of the same kind brought on by some intended muscular movement, was associated with conjunctivitis, rhinitis, pharyngitis, or with enlarged tonsils, either congenital or acquired, or both.

In other cases of local chorea, which will ocasionally terminate in general chorea, he had found chronic nasal catarrh of the same description given to-night, and with chronic pharyngitis, and with chronic rhinitis without chronic pharyngitis, or the opposite; in many cases it is difficult to say which is the original disease.

The pharyngeal tonsil is frequently overlooked when studying these cases. It is well known that this tonsil is not infrequently the cause of retro-pharyngeal abscess, and it is with cases of abscess that it has been most extensively studied. Inflammation of the pharyngeal tonsil always causes general rhinitis and pharyngitis. The principal book on this subject is a recent publication by Trautmann, who reports one hundred and fifty cases of enlargement due to chronic or subacute inflammation of the pharyngeal tonsil. This author connects it with a number of symptoms such as are described in connection with chronic pharyngitis and rhinitis, and particularly alludes to migraine, which was present in eighty-seven of the one hundred and fifty. Of the eighty-seven, eighty-five were cured by destroying entirely or partially the pharyngeal tonsil; the others were treated in the same way, but were not cured; one of these was complicated with polypus.

These facts show that the whole surface of the nasal cavity is liable to give rise to these reflex symptoms which have been alluded to by the previous speakers; it may be the pharyngeal tonsil, etc. Frequently it appears that it is only one small spot which requires treatment, and all the rest will take care of itself.

The remarks concerning local chorea resulting from chronic and subacute pharyngitis and rhinitis the President regarded as only preliminary. He had not published any of his cases; in fact, he had been of the opinion that every one must have noticed them. But it appears that it is not so, and he gave the observation for what it was worth, and recommended those whose attention had not been drawn to the subject to study cases with reference to this point, and to seek the result of the simple treatment.

The Academy then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MR. HUTCHINSON'S LETTSOMIAN LECTURES ON SYPHILIS AT THE MEDICAL SOCIETY OF LONDON—SIR J. CRICHTON BROWNE.

LONDON, January 9, 1886.

MR. HUTCHINSON is such an acknowledged authority on syphilis that his "Lettsomian Lectures" have been looked forward to with unusual interest. His first lecture was delivered on Monday evening last in the presence of a large audience. In this he enunciated afresh many of his published views, and also brought forward some original observations and opinions.

On the question of the mutual relations of the different forms of primary venereal sores, Mr. Hutchinson may be termed a unicist. He regards soft sores as an appanage of syphilis, and thinks that the poison which produces them may be only a specialized product of inflammation and not a specific virus. He combated the generally received view as to the uniform character of soft sores. If, he said, we placed in one group all the sores which do not harden and which do not infect the system, we should find the typical characters of the chancroid present in but a small proportion of them. This want of uniformity was a strong argument against specificity. Another equally strong argument was that the true chancroid on the genitals was seldom seen except in those who had already had syphilis. With regard to prognosis, if a person who had never suffered before contracted a venereal sore of any kind it would probably lead to syphilis. Mr. Morgan's statistics were quoted in support of this conclusion. The experiments of Morgan, Lee, Gascoyen, Bidenkap, and others were quoted as to the production (in those who had had syphilis) of chancroids by inoculation with syphilitic secretions and purulent secretions from indurated sores which had been made to suppurate by artificial irritation.

Mr. Hutchinson then stated afresh and expanded his already published views as to the relation of phagedæna to syphilis. Phagedæna, as we see it in connection with syphilis, he regarded as being almost invariably of spontaneous origin, *i.e.*, caused by syphilitic inflammation and not by phagedænic contagion. Mr. Hutchinson compared it with the chancroid, believing that, like it, it is a modified form of syphilitic inflammation. I may remark in passing, that most British surgeons believe that phagedæna is a more frequent accompaniment of the chancroid than of indurated chancres. It will be seen from the above that Mr. Hutchinson teaches the reverse. He also holds that hospital phagedæna originates from syphilis, and expounded this view at some length in his recent lecture. The disease was very contagious and spread by contagion only, but it never led to constitutional syphilis. Accepting the hypothesis of its syphilitic origin we had, said the lecturer, a parallel fact to what (in his view) occurred in the case of chancroid. A specialized contagium (pus) had been bred up, which could produce its like wherever inoculated, but did not contain the virus of syphilis.

Mr. Hutchinson also protested against the popular doctrine in regard to another matter. It is generally believed that inflamed buboes following venereal sores occur almost exclusively in connection with soft sores. In private practice, said the lecturer, it was very rare that we had to do with inflamed buboes, but of late years it had so happened that almost all the cases of suppurated bubo which he had seen were cases of syphilis. It was not very exceptional for the typical chancroid to cause no enlargement of the glands at all. The practical inference drawn was that we were on unsafe ground in assuming that scars in the groin implied absence of constitutional infection.

The subject of second attacks was then considered.

For a second attack to occur it has usually been considered necessary for a long interval of years to elapse, but Mr. Hutchinson said he had seen a well-characterized chancre due to fresh contagion, within a year of the first, and before the patient was well rid of his symptoms. He had repeatedly seen them in those who still suffered from reminders of their former attack. It had been proved by experiment that in occasional instances fresh inoculations on patients suffering from syphilis may produce a certain degree of induration, although, as a rule, they failed.

Incubation periods were then discussed and the opinion expressed that they were really longer than has generally been believed. "If by incubation period," said the lecturer, "we mean, as I contend we ought to do, the interval between contagion and the production of an induration which can be diagnosed, then I believe we shall seldom find it less than five weeks, and more often six. If we date to the first appearance of a sore, then it will be a week or ten days shorter, for the development of hardness takes that time."

Another interesting point then referred to was the fact (first noted by Mr. Hutchinson himself) that chancres might recur. It was quite possible for indurations to develop in the retrocoronal fold of the prepuce, which assumed the most exact resemblance to hard chancres, but which were not consequent on any fresh contagion. They occurred to those who had had syphilis and usually on the site of former chancres. They might occur repeatedly to the same individual. They usually appeared within five years from the primary infection. They mostly retained throughout the most exact resemblance to the ordinary collared chancre, and they were often wholly without ulceration. Mr. Hutchinson said he had also known a chancre to recur in a case in which the disease had been due to vaccination.

The frequent occurrence of cases in which syphilis followed what was considered to be only gonorrhœa suggested the suitability of recognizing what we might call gonorrhœa-syphilis. There was no danger now that this name should mislead us into adopting Hunter's erroneous generalization. These cases might be explained on the supposition that the particular virus of syphilis might exist in gonorrhœal pus. If a patient, the subject of secondary syphilis, should contract gonorrhœa no doubt the virus would pass into the discharge, since we knew that it was present in the blood, and found its way into all products of inflammation. Such a person would very likely convey to another gonorrhœa immediately, and a chancre four or five weeks later.

Mr. Hutchinson brought his rather long but very interesting lecture to a conclusion by a brief reference to the subject of syphilis conveyed in vaccination. That the disease may be transmitted by vaccination *with clear lymph* from a syphilitic person he now regards as an established fact. He bases this belief on the result of some experiments made by one of our public vaccinators (on himself) a few years ago. The gentleman referred to finally produced an outbreak of constitutional syphilis by repeatedly vaccinating himself *with clear lymph only* from syphilitic infants.

Dr. J. Crichton Browne has been knighted. Dr. Browne has been known for many years as an able psychologist, but was brought into special prominence a short time ago by his report on "Overpressure in Board Schools." The Liberal Government, then in power, endeavored to suppress the report, and, when printed, to discredit it by printing along with it a rejoinder by Mr. Fitch, one of the Inspectors of Schools. The report, however, carried conviction to its readers, most of whom will be glad to see that the present Government has been ready to accord Dr. Crichton Browne the credit he deserved.

THE USE OF COFFEE sometimes causes pruritus vulvæ and pruritus ani.

THE COMMITMENT OF THE INSANE.

TO THE EDITOR OF THE MEDICAL RECORD.

I MUST take exception to certain statements made in your editorial on "The Commitment and Management of the Insane," in THE MEDICAL RECORD of January 9th. You state that physicians, wishing to have their certificates of insanity signed, are subjected to vexatious delays and personal annoyances, and that the doctor is often obliged to fee the clerks and court-attendants to facilitate matters.

I have been the Examiner in Lunacy for the Department of Public Charities and Correction for the past eight years. As I commit, on an average, fully one hundred patients a month, I am compelled to go to court almost daily. In all that time I have never given a fee to any court-attendant, even of the most trivial nature, nor has any such thing been hinted to me.

In regard to the judges, I have found them agreeable and accommodating, many of them signing my papers while holding court, during an interval in argument between counsel. During vacation time in summer, when there are only a few judges in the city, I may have to wait a little, but no longer than a member of the bar. In all my experience, I have had only one judge refuse to sign my papers. He refused on the ground that it was not constitutional to deprive a person of his liberty except after a trial by a jury, even if he was insane. A number of times, where the cases were urgent, I have had my papers signed by the judges at their residences at night.

WILLIAM L. HARDY, M.D.

353 WEST TWENTY-EIGHTH STREET,
January 12, 1886.

[We can only say that Dr. Hardy's experience is not that of many others, as reported to us.—ED.]

THE PLURAL OF LARYNX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In all sciences the demand for an exact nomenclature has at some time been felt, and, to a greater or lesser extent, this demand has been satisfied, but much is yet to be done before the physician or surgeon can claim for his science a perfect vocabulary. Many questions regarding the spelling and formation of medical terms constantly arise, and if a layman occasionally offer a suggestion, it will, without doubt, be taken in good part by his professional friends.

A prominent laryngologist of London saw fit to criticise a confrère of Brooklyn for his use of larynges as the plural of larynx, the Englishman claiming larynxes to be the correct form, at the same time clinching his argument by affirming that a Latin scholar, on whose judgment he relied, had assured him of this. Now, though this evidence may have seemed all-sufficient to Dr. ——, yet there may be some incredulous readers of this journal who will demand some more satisfactory evidence, and this it is our present endeavor to furnish.

Of these two forms, which is correct, or, if both be correct, which is to be preferred? If we turn to the dictionaries we shall obtain no assistance, for, without exception, they omit all mention of a plural of larynx. In default of direct evidence we shall have to fall back upon the rather dangerous method of reasoning from analogy. Turning over the leaves of our mental vocabulary, let us halt at the word phalanx, and see whether it will not help us out of our difficulty. Like larynx, phalanx is derived from the Greek, and has in the genitive φαλαγγος; the γγ is equivalent to English ng, γγ being an assimilation of ν with γ, a process quite familiar to Greek scholars. But it does not necessarily follow that the English word has accepted the oblique cases of the Greek noun, as well as its nominative case. Very frequently an English word derived from the Greek forms

its plural after the English fashion, but a particular analogy is always to be preferred to a general one, and if we can find authority for phalanges, we shall have to decide in favor of larynges also. Webster and the Imperial give the plural phalanges as an anatomical term, hence larynges.

The forms derived from phalanx and larynx also materially assist us in our demonstration, for without exception ng is employed, as phalangeal, phalanges, laryngeal, laryngitis, laryngology, etc. An appeal to the cognate dialects reveals the same fact, Latin having the plural phalanges; French, the form laryngi; Italian and Spanish, laryngio.

The arraignment of these arguments would seem to decide the case in favor of larynges, although it is not intended to dispute Dr. ——'s perfect right to use larynxes, "because it's English, you know." We all know the proneness of the English scientist to conservatism, especially in regard to suggestions from this side of the water; we shall not be surprised, therefore, if larynxes still holds its place in English hearts.

Hoping that this note may find a place in your journal, I remain respectfully yours,

DANIEL KILHAM DODGE, A.M.

COLUMBIA COLLEGE, January 8, 1886.

P.S.—Since writing the above I have found in Goold Brown's "Grammar of English Grammars" the plural form larynges, with no mention of larynxes. D. K. D.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 17, 1886, to January 23, 1886.

WEBSTER, WARREN, Major and Surgeon. Sick-leave of absence further extended nine months on account of sickness. S. O. 15, A. G. O., January 19, 1886.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 23, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
January 23, 1886.....	1	7	43	3	20	76	7	0
Deaths.								
January 23, 1886.....	0	3	13	3	2	31	1	0

CONTROLLING SEX IN GENERATION.—Dr. E. A. Cobleigh, of Athens, Tenn., writes: "In your issue of December 26, 1885, is a review of a new book by a Mr. Terry, entitled 'Controlling Sex in Generation.' The author assumes that 'at the generation of male offspring the mother must be in a higher degree of sexual excitement than the father,' and conversely. Now, facts are stubborn things, no matter what theory they run against, and this they often do to a well-grounded idea. My experience as a practitioner of medicine leads me to strongly doubt Mr. Terry's hypothesis. One fact does not controvert an argument, for it may be an exceptional one, but several similar antagonistic facts do tend powerfully that way. I have seen several such, two of which are positive facts which oppose squarely the author's assumption. Now, let me ask, is it not the experience of every physician that no inconsiderable number of females in a community may be found who are either *naturally* and wholly devoid of any sexual propensities whatever; or, if not minus this propensity, are at any rate its possessors only to a feeble extent? Such has been my own observation. To this may be added a quota of women who abhor the sexual act through pathological conditions of the sexual organs which render it inconvenient, or even painful—those suffering from 'dysparennia,' as Barnes calls it. Now, these women conceive like other women, and bear male offspring, as I have more than once had knowledge of in my practice. And, to be more explicit, I will cite three just such cases which I now call to mind, the inside history of which I am thoroughly conversant with. I know two married ladies, in good social position, each of them the mother of two boys and one girl, the girl in both instances being the youngest. One of these women bore both her boys before she ever knew what sexual excitement was, the girl being the fruit, however, of a sexual act participated in fully by both the wife and the husband. In the other case the lady does not, to this day, experience any pleasure whatever in the sexual act. Here were four boys conceived by two females, to my knowledge (for this condition of affairs was a cause of regret in the domestic circle), both of the women being at the time in a mere condition of passive submission. In a third instance a woman, in the highest circles of society, bore an only child under the same circumstances, that child being a boy. I might adduce other instances, but these are sufficient to rebut the hypothesis which I am dealing with. Indeed, I think this theory might rank with a superstition harbored by two men of my acquaintance, one of them a physician himself and the other a clergyman. They believe that the position of the woman during and immediately after the act (on the one side or the other) accurately determines the sex of the resulting fœtus. Both have large families, and they think they have demonstrated a scientific fact by their own experiences.

ANATOMICAL CURIOSITIES.—Broesicke describes in *Virchow's Archiv* the following anomalies which he found on the dissecting table: 1, Congenital union of the kidneys by an S-shaped band; 2, a third median laryngeal ventricle; 3, a diverticulum in the lateral wall of the pharynx communicating with the Eustachian tube.

EXTRAORDINARY FECUNDITY.—We borrow the following questionable story from our otherwise truthful contemporary, the *Raccoglitore Medico.* A certain Maddalena Granata, forty-seven years of age, was married nineteen years ago. Her first child, a girl, was born after nine months, and lived to be eight years old. At the next birth six male fœtuses were brought forth, one of them being apparently in the sixth month, the others younger. The third pregnancy resulted in three more males of seemingly different stages of development. The fourth trial resulted in three more fœtuses, also males, at the sixth month. The fifth pregnancy resulted in twins, females, born at term, one of whom is still living at the age of twelve years. This occurred in 1873, and from that time up to the present Signora Granata has turned out no less than forty-five more fœtuses of the masculine gender, making a grand total of sixty in nineteen years! The woman is in excellent health, and is able to do her full share of work in the fields along with the other patients. The reporter adds that any one who does not believe this tale may inquire of Dr. Raffaele de Sanctis, of the rione Liporta, in lower Nocera, where this remarkable woman lives.

PRIORITY IN HYDROPHOBIA INOCULATIONS.—At a recent meeting of the Royal Academy of Medicine of Rome, a committee was appointed to collect evidence in support of the claim for priority in hydrophobia inoculations made in behalf of Dr. Cappello, of Rome. Before making any great claims it would be well to have the value of the method determined.

THE GERMAN DISPENSARY.—The twenty-eighth annual report of the German Dispensary, No. 137 Second Avenue, shows a total of 33,496 patients treated during the year 1885. The total number of consultations was 79,252, and the average number of consultations by each physician was 2,401. The number of patients treated since the dispensary was founded reaches the large figure of 463,417. The new building donated by the late Mrs. Ottendorfer has proved itself well adapted for its purpose, and of sufficient capacity for the accommodation of the patients, of which, on a busy afternoon, there were sometimes nearly 400. It is gratifying to learn of the number relieved in this institution, but one cannot but ask how many of these 33,496 patients might have been able to pay some physician a moderate fee for advice and treatment. Some of them, no doubt, could have done so.

TOLERANCE OF MORPHINE IN AN INFANT.—A correspondent, from Winnipeg, writes: "I have a case of spina bifida, with hydrocephalus, in a child four and a half months old. The spinal deformity includes the last three lumbar vertebræ. There is complete paralysis of all parts below the seat of lesion, including the sphincters, and also double talipes varus. The child, a little girl, has seemed to suffer excruciating pain ever since birth, keeping up a continual screaming. As we hoped death would soon terminate her troubles, no operation or treatment of any kind has been instituted, except the use of narcotics to allay pain. At the present date she takes half a grain of sulphate of morphia a day, and this has only a quieting effect. She takes one-sixth of a grain for a dose, and is actually thriving on it, so that I am afraid some operation will have to be performed, if only to give her a chance of dying."

HYDROBROMATE OF HYOSCINE.—Dr. P. M. Wise, of the Willard Asylum for the Insane, writes: "Such conflicting reports have appeared recently concerning the value of this substance as a hypnotic, in substitution for the coarser alkaloid hyoscyamine, as to lead one to suppose that the drug used by the several writers was not of a uniform nature. The hyoscine used at the Willard Asylum, where its action has been carefully observed for a number of months, was obtained through Merck's authorized agents in New York, and was delivered in the original packages. The preparation of the aqueous solution was made with great care, and was kept only in ground glass stoppered bottles. The conclusions reached by the medical staff of the asylum in respect to its value as a hypnotic are nearly identical with those of Drs. Peterson and Langdon, as reported in THE MEDICAL RECORD of September 19, 1885. It was found that it disposes to sleep indirectly after several hours, when given in sufficient doses to produce its marked physiological effect, such as muscular relaxation, and, occasionally, stupor; but that it cannot be regarded as a hypnotic in its proper sense. Its use in active mania and melancholia was not attended with desirable results. In cases of insomnia it failed in doses short of producing its disagreeable effects —midriasis and dryness of the throat and mouth. In our experience it does not possess the value of hyoscyamine in any of the uses to which the latter is ordinarily applied. It has been used in doses varying from $\frac{1}{100}$ to $\frac{1}{75}$ of a grain." Dr. Wise adds that he has also tried the drug in whooping-cough in a child nine years of age, without obtaining any appreciable benefits as regards either the paroxysms of coughing or the insomnia.

A NEW INSTRUMENT FOR MAKING VESICO-VAGINAL FISTULÆ.—Dr. Jacob Michaux, of Richmond, Va., sends a description of an instrument which he has devised for establishing vesico-vaginal fistulæ when, in cases of cystitis, this condition is desired. The instrument, called a vesicotome, consists of two separate blades which, when desired, are locked in the same way as the ordinary obstetrical forceps. One of the blades is armed with a punch, either oblong, elliptical, or round, as may be desired, and the other has a slight depression on a lead surface to receive the sharp edges of the punch. The latter blade is first passed into the bladder, and the handle of the instrument raised so as to cause the tip of the blade to bulge into the vagina. Then the other blade, armed with the punch, is passed into the vagina, the handles are locked and then firmly pressed together, so as to cut out a clean piece the exact size and shape of the punch. The patient is to be in the Sims' position, with a Sims' speculum in the vagina.

ABSORBENT COTTON AS A COVERING FOR ELECTRODES.—Dr. J. H. Greene, of Dubuque, Ia., writes that he has been using absorbent cotton as a covering for electrodes, in the place of sponge, for the past two years. He uses an electrode formed of a rounded polar surface fitting into a hard-rubber retaining ring. The absorbent cotton is folded in rectangular form and passed between the ring and the polar surface. The latter is then screwed down, pushing before it the cotton until the latter is arrested by the rubber ring. The cotton fits smoothly over the polar surface, and the whole makes a neat and compact electrode.

A SINGULAR CASE.—At a meeting of the Medical Section of the Academy of Medicine in Ireland, says *The Lancet*, held on the 18th inst., a very remarkable specimen was exhibited by Dr. J. Magee Finny. It was an example of an ulcer of the stomach, which perforated the left ventricle of the heart and caused death by hemorrhage. The subject of this interesting example was a lad aged seventeen, of a somewhat strumous constitution, who was admitted into hospital under Dr. Finny's care about two months since, and died early in December. During his stay in hospital pain was complained of about the cardiac region, and pericarditis was diagnosed; but, strange to relate, there were no symptoms of any gastric irritation, neither pain nor vomiting. On the day death occurred the patient passed blood by stool, and a post-mortem examination showed that the stomach was entirely filled with blood.

MODERATION IN BONE SELLING.—The Austrian Minister of Instruction recently sent a communication to an association of Viennese physicians, requesting, on "legal, moral, and sanitary grounds," the sale of human bones and anatomical preparations be as far as possible restricted. An answer was returned to the effect that there was nothing illegal, immoral, or unsanitary in the sale of such articles, and that if there were, their sale should not be limited, but absolutely prohibited.

A MALE MIDWIFE.—A story is told in the *Journal de Médecine de Paris*, of a young married woman whose notions were so strict that she refused to have a physician attend her in her confinement, and insisted upon having a midwife. The family physician, having a sincere interest in the young lady, and being unwilling to intrust her to the care of a midwife, conceived the idea of sending a young medical friend whose face was beardless though his knowledge and skill were great. The young doctor accordingly dressed himself in female attire, saw the patient, and safely delivered her of a promising child. But he was not allowed to escape without a severe trial, for he was consulted by all the female members of the family, one after the other, for certain little tumors and other blemishes on various parts of the body which they had been unwilling to exhibit to their family physician. His wounded modesty was healed, however, by a plaster in the shape of a five hundred franc note.

MICROBES IN LAUDANUM.—Dr. G. Puerta writes in *El Siglo Médico*, that he has discovered a bacillus in a number of specimens of laudanum examined by him, which bears a striking resemblance to the comma bacillus. He thinks that care is therefore necessary, in examining the stools of patients with diarrhœa, to see that laudanum has not been given, as then bacilli would be found in the dejections and a diagnosis of cholera might be erroneously made.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 6 NEW YORK, FEBRUARY 6, 1886 Whole No. 796

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Original Articles.

METHODS OF DIAGNOSIS.[1]

By LAWSON TAIT, F.R.C.S.,

BIRMINGHAM, ENGLAND.

AT a meeting of the New York State Medical Society, last February, my friend, Dr. Vander Veer, paid me a compliment of a most unusual kind, and for which no words of mine could possibly form an ample recognition. As I read the paper in which he described his visit to me, and what he saw while he stayed there, I had some difficulty in recognizing that the points upon which he laid great stress really deserved the prominence in which he had placed them. No one, however, can be a judge of his own work, and I therefore accept Dr. Vander Veer's valuation of mine in a spirit as generous, I trust, as that which he has displayed in describing it.

Many of the sentences in Dr. Vander Veer's paper have given me food for thought, and I think that in many respects I have to be grateful to him for improvements in my details, which have been suggested to me merely by seeing my methods described by one who was strange to them. One paragraph in particular has given rise to much introspection, and at first it alarmed me very much, because I felt that if the criticism were deserved (and this sentence really stands alone in the paper as being a criticism in the ordinary sense of the word), I was in all probability doing harm to my patients, and certainly was running the risk of setting a bad example to others whose opportunities were not so great, and whose condition of practice was not so peculiar as my own.

The paragraph I speak of is as follows: "Mr. Tait does not give very much time to the examination of his patients, as a general thing. His manner shows him to have unbounded confidence in making an abdominal section, then treating whatever he may find." I do not believe for a moment, after very careful thought upon the subject, that Dr. Vander Veer arrived at the conclusion that my method of diagnosis was careless and irregular. It is perfectly true that I have unbounded confidence in making an abdominal section, and by long practice have achieved a facility for treating whatever may turn up. But I have satisfied myself that, though the time which I give for the purpose of examination of any particular patient, or of my patients in general, may be short; that that time is only relatively and not actually short, and I desire to say something about my methods of diagnosis in this paper, not merely for the purpose of defending myself from what would appear to be something like a charge of recklessness, but far more to speak, as well as I am able, upon the processes of diagnosis which are peculiar to the practitioner who is not engaged in clinical teaching.

I fancy that the difference must be very much that which would exist between the process of an artist who is also a teacher of drawing, and one laboring entirely in the studio. A teacher must not only be precise and methodical, but he must do everything largely by routine; and to show his pupils how to accomplish their work accurately, he must not only lay down line after line and wash upon wash, but he must teach and give examples at a level which will suit the least instructed and dullest of his pupils. It must, of course, be essentially different in the case of an artist who works purely in his studio, and solely for the purpose of producing, to the exclusion of anything like instruction. I have actually gone to the trouble of watching the technique of two painters—one of them a teacher, the other merely a producer—precisely for the purpose of investigating this point, and I am quite certain that what I have seen about them is equally true of artists in surgery.

It has been my misfortune never to have been a teacher, and therefore I have found, since my attention has been drawn to the matter by Dr. Vander Veer's paper, that I come to my conclusions in ways which are altogether different from those adopted by men who are engaged in the practical instruction of pupils. I was immensely struck with this during my recent visit to the Medical School at Edinburgh, where clinical teaching of medicine and surgery has been brought to its greatest perfection. There I found men who have been my life-long friends, men more or less of my own age, who are trained teachers as well as accomplished practitioners, differing from me precisely in the directions which I have already indicated. There can be little doubt that the training of a teacher inculcates habits of precision and accuracy such as can be acquired in no other way. But, on the other hand, it involves methods of thought, and particularly methods of diagnosis, which, whatever else they may do, involve very protracted methods of reasoning, and a considerable expenditure of time.

I found that their methods were pretty much to my own in the same relation as the multiplication table stands to the arithmometer. They arrived at conclusions identical; but my own methods—some of which are practically inexplicable, because I hardly understand them myself—certainly involve a great saving of time and trouble. Let me instance the method of diagnosis which we call palpation. An abdomen is submitted for examination, uniformly distended, and the question comes to be, first of all, as to whether the distention is due to an intra- or extra-peritoneal cause; as to whether this cause is a collection of fluid or the growth of solid matter; whether these causes may be mixed, and in what relation they stand to one another; what organs may be concerned in the treatment of the enlargement, and fifty other questions of more or less importance in deciding how the disease may be dealt with. A teacher approaches such a subject as this from an altogether different view, and in an altogether different way from those of a man who is engaged exclusively in practice. The teacher's desire is not only that he should arrive at a correct conclusion upon all the questions, or as many of them as are capable of solution, but that fifty or more young men, devoid of experience, may see the reasons and follow his reasoning upon all of these said questions. As these fifty men will move with progressively-increasing slowness in their mental action, it practically comes to this, that the process of diagnosis on the part of clinical teachers can only be made at the rate possible for the dullest pupils.

In the practice of the practitioner there is no such retarding influence, and his methods and his conclusions occupy just as much time as his mind would require to make them. An example of this difference I noticed in the case of a very eminent teacher, whose hands wandered over an abdomen, noting with care, percussing

[1] Read before the Medical Society of the State of New York, February 2, 1886.

uniformly and extensively, seeking everywhere and in all directions for fluctuation, and coming to his conclusions after an examination which occupied over fifteen minutes. He was not at the time engaged in teaching, because we were by ourselves, and he is not a man whose mental powers are by any means slower than my own; but the habit of teaching was on him, and my own conclusions, which were identical with his, were made in exactly one-fifteenth part of the time. From this experience, as well as some others of less note, I derived much comfort, because I felt that Dr. Vander Veer's statement was capable of very satisfactory qualification.

I need not say that, in addition to the absence of the retarding influence which teaching must exercise, another qualification of Dr. Vander Veer's views lies in the fact that my practice is restricted in area to an extent which has probably never before been attempted. Even the practice of ophthalmic surgery may be regarded as a much wider field than that which I occupy, for I limit my work absolutely to the surgery of the abdomen and pelvis, and into this there cannot be brought any of the diverting attractions such as are formed by the refraction cases among diseases of the eye. This restriction of area, coupled with the very large number of cases in my practice, gives me as much facility in the matter of diagnosis as has been accorded to me in the matter of treatment, if the evidence of Dr. Vander Veer, Dr. Dudley, and others is to be accepted as affording a fair criterion.

It is true about every human handicraft, that by restricting the area of production there is secured a much larger experience within that area, and the workmanship which results is very much better. This division of labor must lead to the same improvements and developments in surgery as it has done in everything else. I therefore have to plead that what seemed to Dr. Vander Veer, and I know has seemed to others, but a short and possibly incomplete system of diagnostic methods, is really, so far as results are concerned, quite as complete, if indeed it is not more so, than methods which seem to be far more elaborate and are certainly much slower. Let me give a few examples, such as I have been able to establish in my own belief after much search, as to how a skilled workman may do with his fingers what the inexperienced may require special tools to enable him to accomplish. In the gynecology of twenty years ago, which was pretty much the period at which the great master of the art left it, there still remained a survival of the battles which waged for many years concerning the use of the speculum and the sound. The school of French gynecology was charged with an altogether improper, and indeed, as it was urged, a very indecent frequency in the use of the speculum. On the other hand, the English school, with Simpson at its head, was fully as often and as loudly charged with an improper use of the sound. The conclusion that I have come to concerning both of these instruments and both of these disputes is, that both sides were right and both were wrong.

It is perfectly impossible for any novice in the diseases of women to obtain an accurate notion as to the condition of the vaginal mucous surface of the os and cervix, and to some extent the interior of the uterine canal, without the constant, I would almost say the invariable, use of the speculum. It is also quite as impossible for that novice to form any notion as to the position of the fundus, or the relations of the uterus with the pelvic tumor, without the employment of the sound. But no practitioner of gynecology can possibly be regarded, at least by me, as an accomplished specialist who uses either one or the other of these instruments with great frequency. I have found in my own practice, that just as my experience increased so did both of them become unnecessary, until, concerning the speculum, it is a fact that, unless I want to do some operation, or make some special investigation within or beyond the vaginal cavity, the speculum is never employed at all; and for the discovery of the position of the uterus and its relations, the sound has almost ceased to be an advantage.

It is perfectly impossible for me to convey by any kind of description how I can tell, by the touch, an inflamed vaginal mucous surface from one that is healthy; neither can I describe the feeling that the everted surface of the cervix gives to me which declares the condition of chronic endometritis. But I know that my educated finger-tips can make this distinction. If, on the other hand, I discover a pelvic tumor, long practice enables me to tell with almost perfect certainty, and without the use of the sound, that it is a retroverted fundus, or adherent tube or ovary, or by its fading away toward the broad ligament, on one aspect of the uterus or another, that it is an intraperitoneal hæmatocele; while the peculiar resistance of a myoma conveys to my mind an accurate impression which needs no probing of the uterus to substantiate So a cyst reveals itself in a way I cannot communicate. As a result of all this I very rarely use the sound.

As a matter of fact, I have found that these two instruments, the speculum and the sound, as methods of diagnosis, have been productive of uniformly more harm than good. That a blennorrhagic discharge from the vagina of any patient requires the introduction of a speculum is one, I am fully persuaded, of the stock beliefs of the great bulk of general practitioners. But it is certain that nothing of the kind is requisite, and a very large amount of mischief, there can be no doubt, has been produced by this belief. It is not at all an unusual thing for me, on taking part in a consultation with the family physician concerning some such case, to be told by him that he very much regretted that he had not made an examination by the speculum. Others have told me that they made the said examination, and when asked what they saw, or what they did, the answers usually given are that they did nothing, they merely made the examination; that is to say, they passed the instrument, and with that proceeding were perfectly satisfied—evidently under the belief that the passage of the speculum was quite as much a curative agent as a method of diagnosis. Similarly with the sound. I have heard many practitioners tell me of their experience with the sound, or rather their want of it, and I judged that they looked upon it as a sort of magical charm, the introduction of which into the uterus was to achieve unmeasured good. As a matter of fact, the sound is one of the most dangerous instruments which ever were invented for the treatment of human suffering, and in my own practice obtains hardly any kind of employment at all.

There is a story which is told against myself by some of my colleagues, which I never hesitate to repeat, because it was the kind of accident which is liable to occur to any one, and fortunately the only one of its kind which ever happened to myself. It conveyed a lesson to me of which at the time I stood much in need, and from which I know thousands of my professional brethren may take warning with advantage. Many years ago I was asked by the surgeon of a large general hospital, with whom I was making a casual visit, to give him my opinion on the case of a young woman who had been in the hospital for some months, suffering from a pelvic tumor which seemed to threaten her life. She had hectic and was suffering and very ill. The tumor on one side of the pelvis was apparently quite fixed, and I gave it as my opinion that it was a collection of matter, but in what position I could not say unless she would allow me to make use of the uterine sound, which, unfortunately for myself, but fortunately for the patient, I had in my coat pocket. My friend told me I could do exactly what I thought proper. He had asked me for my opinion as a specialist, and he would not interfere with any steps I thought fit to take for the purpose of furnishing him with that opinion. I immediately proceeded to use the sound and came, quite erroneously, to the conclusion that the patient was suffering from a parametric abscess.

The sound passed, as I thought, into an empty uterus, fixed toward the right side, the uterus being of the normal length. Within twenty-four hours the patient miscarried of a fourth month pregnancy, and this ended all her sufferings. She speedily recovered and left the hospital, cured in a way which nobody expected, and which certainly I did not intend. All such accidents have by no means so happy an ending as mine had, and their number is immense.

But few months pass without my hearing of a case in which some kind of mischief has not been done in this way. The misuse of these instruments, of course, is due very much to the way in which gynecology has been taught, or rather not taught, in the medical schools of Great Britain. It is unfortunately a subject which is extremely difficult to teach, and therefore has hardly been taught at all. In the first place the classes are too large, and to teach individual students, one after another, is a task which hardly any teacher would care to undertake, and certainly one to which very few of the patients in the clientèle would be brought to submit.

One of the most important methods of diagnosis in abdominal disease, and the first to be considered in examining any case, is inspection, and concerning this method a very great deal of nonsense has been talked. For example, Sir Spencer Wells has told us that inspection will reveal the presence or absence of adhesions; but in my own belief, and certainly from the experience of cases in which Sir Spencer Wells himself has made the diagnosis, there is no possibility of determining by inspection, or any other method, the presence of adhesions anywhere in the case of an abdominal tumor.

A careful examination, by the eye, of the contour of an abdomen, when the patient is lying on her back, with the walls of the abdomen perfectly flaccid, will reveal a good deal to the experienced practitioner. A completely and uniformly distended abdomen may mean that the patient is suffering from peritonitis, intestinal obstruction, ascitic effusion, a parovarian tumor, an ovarian tumor, a large myoma of the uterus, or pregnancy. The process of discriminating between these various conditions may very rapidly be completed by one who is accustomed to dealing with them. Thus peritonitis may be at once detected or eliminated by the presence or absence of the short and rapid pectoral breathing, which shows that the patient is loth to use her diaphragm. In fact, by this alone, and without almost any further inquiry, I have satisfied myself as to the nature of the case by a single glance. Ascitic effusion, on the other hand, is revealed at once by the absence of the pectoral breathing, by the greater flattening of the distention, by its tendency to assume a pyriform shape, the broadest diameter just above the pelvis, by the thickening of the walls due to anasarcous effusion, and the presence of white lines in the skin of the flanks.

If the crest of the ilium sticks out under stretched skin, the diagnosis is again almost complete without further inquiry. If, on the other hand, these subsidiary features are absent, and there be a uniform and complete distention, two conditions widely distinct may be suspected. These are parovarian cyst and hydramnios; and here, again, some very curious mistakes have come under my notice, some of which have had very ghastly results. Parovarian cysts after labor sometimes grow with astonishing rapidity. Hydramnios occurs always with twin pregnancies, and generally in unmarried women, who are, of course, disposed to conceal their unfortunate condition, and mere inspection cannot be depended on to discriminate these cases. But inspection will help us very largely to detect pregnancy and myoma, for in these cases the distention is always greatest either at the middle of the tumor or at its upper part, differing in this way completely from ascitic distentions; and here one of the most important agents in the diagnosis of abdominal diseases, palpation, comes at once to our assistance, and to the skilled fingers it ought not to take more than a few seconds to discriminate between all and any of these conditions. The percussion note, which is uniform in a case of peritonitis, will easily determine the condition which is present. One or two delicate touches of the fingers of one hand, while the fingers of the other lie with the most gentle lightness on the other side of the abdomen, will determine the presence of fluid, and it is in this method of palpation where the fingers of the skilled practitioner at once become visible. The inexperienced hands press firmly upon the walls, and may be seen to move to and fro in an aimless fashion, as if they intended to rock a cradle. The gentlest and tenderest touch alone will reveal what is required. A few trials of the different diameters of the abdomen will teach in as many seconds the leading features which are present: first, that there is fluid; secondly, that it is, or is not, near the surface, being contained, or not so contained, within a thin-walled cyst; thirdly, it is one cavity or not; fourthly, the probable character which it presents. The wave excited by gentle tapping is retarded or urged on by the more or less gelatinous nature of the fluid. All these conclusions can be indicated with the utmost rapidity to the skilled fingers, and it is absolutely impossible to teach how this can be, save by the constant practice of the pupil. The parovarian cyst may be diagnosed entirely from one condition—that is, hydramnios; and partly by the thin walls, and partly by the presence of hydramnios, to which I have alluded, is very easily detected. Ascitic fluid is revealed in the same way, with the additional fact that here and there we get tympanitic percussion notes.

The large uterine myoma is defined by its firm sense of resistance, and its uniformly full and pseudo-fluctuation; also by the fact that it has a smaller diameter at the base than it has at the middle or upper part. Pregnancy, the rock ahead to inexperienced practitioners, can be infallibly revealed by palpation. First of all there is fluctuation due to the liquor amnii, and it can be easily detected, and this declares the cystic nature of the mass. If the hand be made to lie gently on the parietes for a few minutes, a rythmical contraction of the uterus, by which at one time it is hard as a cricket-ball, and at another soft as a cushion, will become perfectly apparent; and this is an infinitely more certain sign than the fœtal heart, or the sound of the placental bruit. The fœtal heart is a sound which may guide and sustain the practitioner in his conclusions, but it is so easily imitated by intestinal noises, and so difficult often to find, that it is not to be depended upon with perfect certainty. The placental souffle is probably more certain than the fœtal sounds, but placental sounds are very often, in rapidly growing tumors of the uterus, so completely imitated that there is always a certain amount of doubt connected with them; but the relaxation and contraciton of the uterus in pregnancy is a method of diagnosis which, when once made apparent, can never be mistaken for anything else.

In all these details the rapidity with which the practitioner will come to his conclusions will depend, of course, in the first place, upon the average rapidity of all his mental acts; secondly, upon the greater or less frequency with which he is called upon to make examinations involving these details; and, thirdly, as I have pointed out, whether he be retarded in his purpose by the obligations upon him to teach others. I feel, in analyzing my own actions in this matter, that they become so habitual to me that I record my conclusions almost without considering in detail the steps by which I arrived at them, and therefore it is not with surprise I now see that my friend, Dr. Vander Veer, has had some kind of justification in his statement that "Apparently I gave but little time for the general examination of patients." But perhaps it is more in the examination of the pelvis, as I have already said, than in anything else, that this apparent rapidity becomes evident, and in striking contrast it stands out with the prolonged time employed for in-

frequent methods of examination, such as in the stethoscopic investigation of the abdominal walls for the finding of the fœtal heart.

I have, as Dr. Vander Veer has quite truly said, an unbounded confidence in the performance of abdominal sections, and I have argued again and again for the extended frequency of exploratory incisions for the purpose of securing complete accuracy of diagnosis; but, and this must never be forgotten, only on the grounds that with the completion of the diagnosis in this way there is at the same time opened out the only road for successful after-treatment. But I must ask that no one who has followed the course of my work will dream for a moment that I pass on the latest side in a difficulty of complete diagnosis to the early side of the issue by its completion in the performance of a laparotomy. To those who are opposed to my views in this matter, of course, nothing is easier than to argue, by means of a charge of recklessness, against my new doctrine. But that such a charge is not to be justified, my results can very speedily determine. That a complete and satisfactory diagnosis can ever be made, save in the simplest condition of disease of the abdomen, without an exploratory incision, I have repeatedly denied. I have said over and over again that the abdomen is a region of darkness, and the man who is most sure about his diagnosis is the man who will be most frequently in error. But this does not mean, nor has one word which I have ever written been intended to mean, that every method that is possible for a correct estimate of the nature of the disease should not be exhausted before the abdomen is opened, either for the purpose of diagnosis or treatment, or both combined. Unless this doctrine be most carefully observed mistakes of the most ghastly and fatal kind will inevitably arise, and they will arise in two conditions clearly, from which, I am proud to say, my own practice is absolutely clear. The conditions of pregnancy are such as to make it perfectly certain that to the reckless operator they will yield an unfortunate harvest. Women who are pregnant when they ought not to be so persistently do their utmost to lead practitioners astray, and the reckless surgeon who opens the abdomen, without having carefully exhausted all methods of diagnosis before coming to the last resource, is certain to be led into the error of opening the abdomen to find a pregnancy in the uterus. This has never happened to me. There will also occur to the reckless surgeon, some time or other, that most mysterious and troublesome of all diseases for diagnostic purposes, to which I have already alluded, hydramnios, due to the over-secretion of the liquor amnii. Seven cases of this disease have passed through my hands, and have been accurately diagnosed in every instance and successfully treated, and I cannot imagine anything much more certain to be a trap for the rash and unwary than this most curious disease. The fact that every one of my cases has been recognized, and properly and successfully dealt with, is an evidence that what I am pleading for is correct.

If I may, in conclusion, take one more illustration to show how completely the results of daily practice, or what may be called rule of thumb, may triumph over the mere teaching of the schools, I would mention the much-discussed bimanual method of examination. I read recently a long rigmarole of nonsense by a German, who evolved from his superabundant inner consciousness, but not from clinical experience, the conclusion that no man could properly examine the pelvis in this way unless he had the patient on her back, turned in the lithotomy position, he being placed opposite the perineum. In the first place, English women would not submit to such brutality, and it is wholly unnecessary. The most complete and satisfactory examination of any woman's pelvis can be made while the patient lies quietly on her left side in bed, without the exposure of one square inch of her skin. Any man who requires more than this is either a pupil or a dullard.

So it is with such a special instrument as Sims' speculum. I have heard some of my American friends say that it is impossible to do any operation upon the vagina satisfactorily without it. All I can say is that I have now cured some three hundred cases of vesico-vaginal and recto-vaginal fistulæ, never having failed in any case, nor having ever refused one, and I habitually pass the sutures with my finger-tips, wholly unaided by speculum of any kind.

This may seem all very boastful to many, but my dear friend, Dr. Vander Veer, has drawn me into it. It may also seem incredible, but it is all true, and can be testified to by many men whose names are household words in the great land west of the Atlantic.

THE INFLUENCE OF CHRONIC BRIGHT'S DISEASE ON THE SAFETY OF ANÆSTHETICS.[1]

By WESLEY M. CARPENTER, M.D.,
NEW YORK.

The condition of the heart has been regarded as the most important factor in estimating the safety of an anæsthetic. This belief has been attested so frequently that it doubtless will remain undisturbed. Whenever an alarming or a fatal collapse occurs with the inhalation of either chloroform or sulphuric ether, or ensues upon the administration of these agents for anæsthetic purposes, the physician turns, almost instinctively, toward the heart for the explanation of the sudden suspension of animation, or the more gradual development of the fatal result.

Preparatory to the performance of a surgical operation, it is the rule, which should never be overlooked, and which has been observed quite uniformly, to examine the heart before administering the anæsthetic.

It is not improbable that this rule had its origin in observations made concerning the effect produced by chloroform, and here it is, doubtless, that it has had its most faithful observance.

The use of sulphuric ether, however, has become so common in this country, and it has been regarded as so safe that, practically, the examination of the patient with regard to the question of safety of administering it for anæsthetic purposes has been very meagre, and by very many the precaution has been omitted entirely.

That it is by far, very far, the safest agent, and at the same time efficient, that can be used generally for producing anæsthesia for surgical operations, is too well established to need special argument to sustain the claim.

The object of this paper is simply to emphasize a precaution to which attention has already been directed, namely—that the existence of chronic Bright's disease diminishes the safety of the patient to whom sulphuric ether is administered as an anæsthetic.

Surgeons have long recognized that chronic renal disease materially influences the *results* of operations, and to such an extent that every well-informed surgeon approaches with very great apprehension all operations which become necessities in patients whose urine has persistently contained albumen and casts. Sir James Paget has said, and to this Dr. Norris has referred—"Never perform an operation, except under something like compulsion, on a patient whose urine is constantly albuminous."

But the same attention has not been given to the question of the influence which chronic renal disease exerts on the *safety of administering anæsthetics*, especially sulphuric ether.

The literature of this subject is scant. Dr. Turnbull, of Philadelphia ("Trans. Amer. Med. Assn.," 1880), writes with special reference to the *immediate* effects produced, and says, perhaps a little dogmatically, that "it is now a

[1] Read before the Section on Surgery of the New York Academy of Medicine, January 11, 1886.

well-recognized condition that in disease of the kidneys anæsthesia almost invariably produces coma and death."

The chief paper which I have found is that written by Dr. William F. Norris, of Philadelphia, and read before the American Ophthalmological Society at its annual meeting, in 1881, and entitled, "The Administration of Anæsthetics in Bright's Disease of the Kidneys." Dr. Norris reports two cases of death supervening after cataract operations, and they had four features in common: 1. Both patients were anæsthetized with sulphuric ether. 2. They entirely recovered consciousness. 3. They died comatose, one a few hours and the other eighteen days after the operation. 4. In both cases careful autopsies revealed no organic lesion except Bright's disease of the kidneys. He says, "In my opinion both deaths were due to the same cause, namely, the congestion caused in already diseased kidneys by the administration of ether."

The first case was one of congenital cataract. Two hours after the operation the child had a convulsion, and died comatose two hours later.

The second case was one of senile cataract in a woman sixty-eight years of age. The operation was performed in the afternoon; during the evening of the same day her urine diminished in quantity, and was loaded with urates. The urine continued to show varying conditions of abnormality until the seventeenth day, when a small quantity of albumen was detected and fatty and granular casts; specific gravity, 1.008. The patient died the following day

In both cases a microscopical examination of the kidneys revealed intense congestion with parenchymatous and fatty degeneration. This condition of the kidneys was also present in a case referred to by Dr. Norris, and reported by Dr. Hunt, of Philadelphia (Philadelphia *Medical Times*, January 9, 1875), namely, a marked state of fatty degeneration, and the writer asks the significant question, "May not conditions of this kind often explain the unpleasant, and even fatal, action of an anæsthetic?"

Commenting on Dr. Turnbull's paper and on the reported cases, Dr. Norris says: "If the administration of ether can, in certain cases, so stimulate some latent form of chronic Bright's disease as to cause decided interference with the function of the kidneys, and death from uræmia, at an interval varying from some hours to two or three weeks after the operation, we have certainly additional and grave cause well to weigh the propriety of administering anæsthetics in all operations for chronic diseases in persons with albuminuria, and certainly ought never to perform one without examining the urine."

"I am well aware that anæsthetics are frequently administered in puerperal convulsions, and that ether is occasionally given in cases in which the patients are known to have Bright's disease, and without apparent evil results; but, because fatal results do not follow in all cases, we have no right to shut our eyes to those where their employment apparently leads to fatal disturbance of the renal function."

I now wish to add two cases to those which have been reported.

Case I.—On November 24, 1885, I superintended the post-mortem examination made on the body of a middle-aged woman who had been operated upon for recto-vaginal fistula in one of the large hospitals in this city. I was also told by one of the house staff that the patient had been in the hospital for some time, and that at the occasional examinations a small quantity of albumin had been found in her urine. She desired an operation, as life, with her infirmity, was well-nigh intolerable. Ether was administered with the precautions usually observed in large hospitals, and the patient, without special warning, died upon the table just before the operation was completed. Only a small quantity of blood was lost.

Autopsy twenty-four hours after death. The *heart*: The left ventricle was contracted, its wall hypertrophied, its cavity empty, and its valves normal. The wall of the right ventricle was relaxed, its cavity was empty, and the valves were normal. Microscopical examination of the muscular fibres revealed that they were substantially normal, only occasional pigment granules being present.

A small quantity of dark-colored watery fluid could be pressed from the cut surface of the lungs; the bronchial tubes contained a small quantity of reddish frothy fluid, and the trachea and larynx were unobstructed.

The liver was enlarged and fatty. The spleen was increased in size and was dark-colored.

The prominent lesions were found in the *kidneys*, which were increased in size, the capsules were adherent, the cortices were thickened and pale, and the pyramids were of a deep red color; the pelves and the ureters were normal. Microscopically, they showed the lesions of chronic diffuse nephritis; the intertubular connective tissue was increased, the capsules of the glomeruli were thickened, the tubules were either empty or contained swollen and granular, or broken down and fatty epithelia and casts; the blood-vessels were distended with blood.

The uterus was normal; the left Fallopian tube was dilated, and the left ovary contained a small cyst. There were old pelvic adhesions. The notable features of this case were: (1) the persistent, though slight, albuminuria; (2) the administration of ether; (3) the sudden death; and (4) the marked lesions of chronic Bright's disease with evidence of an acute process.

In estimating the cause of death in such cases, the fact must not be overlooked that all surgical operations, as a rule, are attended by more or less of shock, varying in degree from the slight and transient to the profound, from which the patient never rallies. But here the surgical procedure did not belong to the class regarded as severe operations, and the loss of blood was what is usually regarded as insignificant.

These remarks, so far as shock and loss of blood are concerned, are applicable to the next case.

Case II.—On January 1, 1886, I was invited to examine the organs removed from the body of a middle-aged, powerfully built man, who had died eight hours after the administration of ether and the performance of what is regarded by surgeons as essentially a safe operation, and with the loss of only a moderate quantity of blood.

Two weeks previously this man had been operated upon under the influence of ether, and had, within the usual length of time, passed from under the influence of the anæsthetic without the appearance of any unfavorable symptoms.

After the second operation he apparently rallied completely from the ether, and felt comfortable in bed. At the end of eight hours he got up, went to the water-closet, returned to his bed, was soon heard breathing peculiarly by the other patients, who gave an alarm, but before any medical attendant could reach his bedside he was dead.

The autopsy was performed thirty-six hours after death. Nothing abnormal was found in the brain, except an atheromatous condition of the arteries at the base, a small clot in one of the sinuses, and marked venous engorgement.

The *heart* weighed twenty-four ounces. There were marked hypertrophy and dilatation of the left ventricle. The mitral valve was incompetent (the orifice admitted three fingers) and there were atheromatous patches about its base. The aortic valves were competent; one cusp exhibited a small vegetation upon the ventricular surface. The wall of the right ventricle was very thin, having been encroached upon to such an extent by fat that the muscular tissue was reduced to about one-sixteenth of an inch in thickness. The pulmonary and tricuspid valves were competent. The aorta was markedly atheromatous. Microscopical examination of the cardiac muscle showed the fibres to be normal.

The liver was increased in size; was firm and red Microscopical examination showed that it was slightly cirrhotic, and also the seat of a moderate amount of fatty infiltration. The blood-vessels were filled with blood.

The *kidneys* weighed nine ounces each. The cortical portion was thick and pale; the pyramids were deep red; the capsule was thickened and markedly adherent.

The spleen was enlarged and firm. Microscopical examination of the kidneys showed the lesions of chronic diffuse nephritis, with marked congestion of the blood-vessels of the pyramids, and a swollen and fatty condition of what epithelia still remained in the tubules. Many of the tubules contained casts.

It will be seen at once that in this case there existed a complex condition of things. There was chronic disease of the heart and chronic Bright's disease. The cardiac disease, also, was of the character which favors the supervention of a sudden fatal result on subjecting the patient to any one of several causes.

The kidneys, however, showed the same appearances microscopically as do many kidneys which are the seat of chronic Bright's disease occurring *unassociated* with chronic cardiac disease, and to these were added the vascular and parenchymatous changes belonging to an *acute process;* possiblv this acute process was produced by the anæsthetic.

As evidence that this is not an unreasonable conclusion concerning the possible effect produced by the ether, I will refer to a paper read by M. Lafont, at a recent meeting of the Société de Biologie, Paris, in which he makes special reference to the secondary effects of nitrous oxide as an anæsthetic; second in order of mention "is the appearance of albuminuria in a certain number of patients suffering from cardiac disease." [The Medical Record, January 9, 1886.]

Gynecologists have turned their attention in this direction, and from time to time, in their discussions in this country, especially in the American Gynecological Society, reference has been made to the importance of fully appreciating the condition of the kidneys in connection with all operations and the use of anæsthetics. Dr. T. A. Emmet has been so impressed with the importance of this question that he has directed special attention to it in his work on gynecology, in the significant words, "I called the attention of the profession to the greater necessity of examining the condition of the kidneys than that of the heart." "Since then I have had at least *five* deaths occur from uræmic poisoning, which, perhaps, might not have occurred if my assistants had been able to examine, or had appreciated the importance of examining, the urine *before the anæsthetic was given.*" (Italics mine.)

From the foregoing I have been led to the following conclusions:

1. Too great care cannot be exercised in examining the urine, both chemically and microscopically, of all patients who are to undergo surgical operations.

2. Chronic Bright's disease diminishes the safety of anæsthetics, especially sulphuric ether, as well as the safety of the operation.

Parenchymatous Nephritis Consecutive to Varicella.—Dr. Franz Hogge reports several cases in which the causal relation of varicella to parenchymatous nephritis was apparently indisputable, and deduces from the study of these cases the following conclusions: 1. Secondary renal inflammation may follow an attack of varicella as well as those of other infectious diseases. 2. Notwithstanding the benign character of varicella, the consecutive nephritis may be as intense as that following scarlet fever, measles, or small-pox. 3. The symptoms of nephritis may become apparent in from five to twenty-one days subsequent to the attack of varicella; they have never been observed during the course of the exanthem or before the desiccation of the vesicles.—*La France Médicale*, December 15, 1885.

DIAGNOSIS AND TREATMENT OF INTRA-PERITONEAL WOUNDS OF THE URINARY BLADDER.[1]

By ALEXANDER W. STEIN, M.D.,

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Mr. Chairman and Fellows of the Surgical Section: It seems to me you could scarcely have chosen a subject more deserving our joint consideration than the one now before us, for intra-peritoneal injuries of the bladder are not of such frequent occurrence as to enable us individually to acquire a large experience with them, and yet the gravity of the lesion is such that it demands of us an early recognition and a prompt and judicious surgical interference. Intra-peritoneal injuries of the bladder have thus far almost invariably proved fatal. I have not found a single instance of recovery after urinary extravasation from either gunshot, incised, or punctured wound of portions of bladder invested by peritoneum, although at least twenty-eight cases of the former, and thirteen of the latter, have been collected. Juillard[2] and Homans[3] both accidentally opened the posterior wall of the bladder during ovariotomy. Fortunately, there was no extravasation, and both women recovered. Of the nearly two hundred cases of intra-peritoneal lacerations recorded, five have been claimed as instances of recovery, by Chaldicott, Thorp, Walters, Mason, and McDougall, respectively. Of these, however, Walters' patient is the only unequivocal instance of recovery. Here laparotomy demonstrated the existence of an intra-peritoneal laceration two inches in length. That the other cases were intra-peritoneal, is merely a supposition, based mainly on two facts: First, (Thorp's case), that the beak of the catheter passed through the rent beyond the bladder and removed urine, and second, the occurrence in all cases of peritonitis. In regard to Thorp's case there is every reason to believe that the catheter did not actually enter the cavity of the peritoneum, but passed into a sub-peritoneal pouch. Neither can the existence of peritonitis be regarded as a conclusive evidence of the involvement of the peritoneum in the injury. There is hardly anything in the history of Chaldicott's patient, other than the existence of peritonitis, that would lead to the belief that it was an instance of intra-peritoneal laceration, nor is there anything more conclusive in the other cases cited.

After intra-peritoneal stab and punctured wounds death invariably occurred by the third day. In the corresponding gunshot wounds more than one-half the subjects survived the second half of the first week. About one-half the intra-peritoneal lacerations terminate fatally within three days. Few survive the first week.

That by far the largest number of vesical lacerations are intra-peritoneal, finds its explanation probably in the fact that when the bladder is distended and is subjected to violent or sudden compression, the peritoneum, which is then the most tense and least yielding of the several tunics, will split in advance of the subjacent coats and carry the latter with it in the laceration. Most frequently the rupture occurs at the upper and posterior part of the bladder, where the viscus is thinnest, and where in the course of distention it comes in relationship with the vertebro-sacral promontory, against which it is forced. Atony, ulceration, and tunicary herniæ of the vesical walls have naturally enough proved predisposing causes of rupture, but in the vast majority of cases the coats of the bladder were healthy at the time of the injury.

One would expect that a degree of thickness or hypertrophy of the vesical walls would be a safeguard against rupture, but a specimen in my cabinet shows extensive laceration through a contracted bladder whose walls are three-fourths of an inch thick. This man had long suffered with stricture. A kick on the abdomen caused the laceration. A more or less replete state of the bladder

[1] Read before the Surgical Section of the New York Academy of Medicine, January 11, 1886.

[2] Arch. f. klin. Chir. Berlin, Bd. 28, No. 2.

[3] Boston Med. and Surg. Jour., February 16, 1882.

usually exists previous to the accident, but complete vesical distention is not a *conditio sine qua non*. Rupture by *contre-coup*, as in falling from an elevation upon the feet or buttocks, has occurred even when the bladder was comparatively empty. Wernher's patient passed water half an hour before this accident occurred. That external violence over the region of the viscus is by far the most common determining cause, is well known, but perhaps we do not equally keep in mind that the force may emanate from the individual himself, as occasioned by straining in micturition, etc. Thus, stricture and enlarged prostate have proved factors in the causation of this injury. The bladder has been ruptured during parturition. *A warning to the accoucheur to secure the evacuation of the viscus during labor.* It has occurred from retention of urine induced by the retroverted gravid uterus. In several instances the rupture seems to have been caused solely from pressure of the abdominal muscles upon the distended bladder, without any obstacle to the escape of urine or diseased condition of the bladder-walls being apparent. A man with retention, laceration of the urethra, and extravasation of urine sustained a rupture of bladder in his struggles while undergoing etherization in Bellevue Hospital. *A warning not to administer anæsthetics while the bladder is in a condition of distention.*

The symptoms of our lesion are usually as follows: Inability to walk or stand; severe pain over hypogastrium; incessant desire to micturate, with an inability to void the smallest quantity of urine, or possibly but a few drops mixed with blood; constitutional symptoms indicative of great prostration rapidly ensue, coma or convulsions supervene, and death comes to the relief generally in a few hours, or, at the furthest, a few days. If the subject rallies from this shock or collapse his life is next imperilled by the development of peritonitis or septicæmia. As to the significance of peritonitis as an element in diagnosis between intra- and extra-peritoneal lacerations, it is nothing more than strongly suggestive of the former. Peritonitis in a given case does not necessarily denote laceration of the peritoneum; it is often associated with extra-peritoneal ruptures, either as the direct result of traumatism independent of injury to the bladder, or as the consequence of extension of inflammation from neighboring parts. Of great diagnostic value is the statement so often made by the patient that after the blow over the hypogastrium, or while in the act of straining, he "felt something give way within the abdomen," or "experienced a sudden relief from the discomfort occasioned by the previously distended bladder." The evidence furnished by catheterization is of special value when it is positively known that the individual had not micturated for several hours previous to the accident. Under these circumstances an empty bladder, or one containing but a small quantity of sanguinolent urine, is strongly confirmatory of laceration. Nevertheless, it must be admitted that evidence pointing to this injury is by no means always unequivocal; often the signs and symptoms upon which we would most rely are absent, and those that exist are dangerously misleading, and the case is shrouded in uncertainty and doubt. We depend much upon the statement made as to the nature of the accident, the condition of bladder at the time of injury, relative to distention, etc., but if the patient is unconscious, or is drunk, as is so often the case, no information can be obtained, or what may be given cannot be relied on.

If we will take a lesson regarding the inconstancy and unreliability of the most characteristic symptoms, we shall find that standing, or even walking some distance, is not inconsistent with the existence of laceration of the bladder. Neither is the difficulty or inability to micturate a uniform symptom. The patient may have no difficulty in voiding urine, and, indeed, may pass a considerable quantity of water. Gruber's patient, with an intra-peritoneal laceration one and a half inches long at the summit of bladder, "was able to pass water without any difficulty." He died eighty hours after the injury. In some instances quite an interval of time elapsed between the receipt of injury and the development of characteristic symptoms. This would seem explicable only on the supposition that at first the rupture was incomplete, and it should teach us to watch closely a patient on whom the suspicion of rupture rests, for, though the symptoms may for a time be latent, once manifest, they are rapidly progressive.

The retentive power of the bladder noted in some cases was remarkable, and was accounted for in the closure of the vesical wound by "valvular protrusions" and "adhesions." A man fell, and manifested symptoms which led to the diagnosis of laceration of intestine. The catheter evacuated a *large quantity of perfectly clear urine*. He died in twenty-four hours, and the autopsy revealed a large tear in the bladder, into which a coil of intestine had slipped and become engaged. The intestine was found uninjured. There were signs of general peritonitis, and a large quantity of urinous fluid was found in the cavity of the peritoneum. Several other instances might be cited to show that the presence of clear urine in the bladder cannot be accepted as absolute evidence against the existence of injury to this viscus. On the other hand, we should know that the sudden advent of blood in the urine is nothing more than a presumptive evidence, strong though it may be, of this lesion. The urine may be tinged with blood from simple contusion of the bladder without laceration. A man was stamped upon and thrown down-stairs; he was brought to the hospital in a state of profound collapse. There were signs of injury over the abdomen. A catheter withdrew a quantity of *dark, bloody* urine. The entire appearance of the case led to the diagnosis of rupture of the bladder. He died in ten hours, and the autopsy revealed a laceration of the ilium and *no injury* to the bladder. Then, again, if, in addition to the appearance of blood, there should be diminution or, perhaps, suppression of urine, a condition not infrequently concomitant with shock following serious internal injuries, we should meet with additional embarrassment in our diagnosis. In eight or nine instances the diagnosis of rupture was established by the accidental passage of the catheter through the vesical rent into the abdominal cavity. If, after entering the bladder and removing, perhaps, a few drops of urine, the catheter is suddenly felt to slip into a secondary cavity, in which its beak is freely movable, and from which a considerable quantity of sanguinolent urine escapes, it is probable that the laceration extends into the peritoneal cavity, but the instrument may have entered either a sub-peritoneal pouch, or, if the rent is situated low enough, may have passed into an extra-peritoneal circumscribed collection of urine. In some cases a most characteristic sign was noted: That warm water injected through the catheter was felt by the patient in the abdomen, and the escape of the fluid ebbed and flowed with the respiratory movements.

The foregoing facts must certainly tend to disturb our faith in symptoms, and well they may, if in appreciation of their unreliability we shall be led *without delay* to seek the more positive information which digital exploration will yield. In the female this may be readily accomplished through the short urethra. In the male the same may be effected by means of a small, median, perineal incision. If the question still rests between intra- and extra-peritoneal laceration, a supra-pubic incision will dissipate all doubt, at first carefully avoiding the peritoneum. Should the injury prove to be without the peritoneum, the supra-pubic incision will have done no harm. On the contrary should it be intra-peritoneal, it will have been the initial step to a laparotomy.

Intra-peritoneal lacerations have been treated by catheterization, paracentesis, cystotomy, and laparotomy. Paracentesis of the recto-vesical cul-de-sac has been frequently suggested on the supposition that the extra-

vasated urine will gravitate and accumulate at the most dependent parts of the peritoneal cavity, but, in reality, such is not the fact; the urine, when it escapes, is diffused over the entire abdominal cavity by the peristaltic movements of the intestine and by the suction action of the diaphragm, and will not accumulate at one point unless incapsuled by peritoneal agglutinations. When such is the case, and a distinct fluctuating tumor is recognized per rectum, it should be evacuated and the cavity washed out. Several writers mention the existence of such collections of fluid, but it does not appear that any attempt was made to puncture or aspirate those collections in any of the cases.

Lateral cystotomy has been practised several times, but as it cannot accomplish anything toward the removal of urine and blood from the peritoneal cavity, I do not see that it is suggestive of benefit, except as a means of effecting bladder drainage, and for that purpose the catheter *à de meure*, by Chiene's method, with steady and gentle aspiration, is all that could be desired, and, unlike cystotomy, does not entail an additional danger to life.

The advantages of laparotomy, in intra-peritoneal injuries, are: 1, That it permits direct inspection of the seat of lesion and the appreciation of concomitant injury to other parts; 2, that it permits of the removal from the peritoneal cavity of the extravasated urine and blood; 3, that it permits of the cleansing and disinfection of the peritoneal cavity; 4, that it permits the accurate closure of the vesical wound, preventing further effusion of urine. These are undoubtedly the indications to be fulfilled, and the more successfully they are met, the greater the chances of recovery from an otherwise fatal injury. Abdominal surgery has long since established the fact that the danger to life is not in the laparotomy, but in the presence within the peritoneal cavity of a decomposable and septic fluid, and when this is removed shortly after such extravasation has occurred, laparotomy may be practised with every hope of success. This statement receives additional confirmation in the experiences of Juillard and Homans. These gentlemen both injured the intra-peritoneal portion of the bladder during ovariotomy. Fortunately, the bladder was empty, so that no urine escaped into the peritoneal cavity, and both patients recovered. In the first instance, a wound four and one-half inches long was closed with fifteen catgut sutures. Catheter was retained six days; the following four days bladder was catheterized every two hours. After tenth day, urine was voided without catheter.

In the second patient the wound two inches long was brought together by a continuous carbolized silk suture; on the tenth day catheter was removed.

Laparotomy has been performed four times by Walter (1859), Willett (1876), Heath (1876), and Bull (1884). If we ask what encouragement these cases hold out for a repetition of the operation, we find that but one of the four proved successful, that of Walter's. Yet, if we examine into the causes of failure in the other cases, we find that the factors that operated against their success may hereafter be avoided. Walter's successful case was operated on only ten hours after the accident, while Willett operated thirty hours, and Heath forty-two and a half hours, after the injury, both the latter cases being pretty well advanced in dangerous symptoms before the operation was undertaken. In the fatal cases there was imperfect closure of the vesical wound. In the case of Willett the edges of the wound were not closed even at the time of the operation, and in Heath's case, in which a continuous suture was used, the knot slipped or gave way a few days afterward. I think, therefore, it must be admitted that with this experience behind us we have no reason to lose confidence in laparotomy. On the contrary, we should feel encouraged to give it further trial.

The ends to be attained are, thorough cleansing of the peritoneal cavity and the accurate closure of the vesical wound. True, Walter was successful with the wound two inches in extent left open, and it serves to show to what extent the catheter may be relied on for purposes of drainage against the suggestion of perineal cystotomy. But I think few will care to follow Walter's example. In the application of sutures the bladder may be made more accessible by distending the rectum with a colpurenter. The stitches should be taken close together, and in a double set, as recommended by Vincent. In one set—the sero-muscular—taking each suture through the peritoneal and muscular coats of the bladder on each side of the wound; in the other set—the sero-serous—taking the peritoneum alone, a considerable width of this coat being included on both sides, so that when these sutures are hid, wide serous surfaces are brought in close contact, as from this surface the most plastic material is exuded. The mucous membrane should not be included in any of the sutures. As to the material used, carbolized silk (Homans). and catgut (Juillard), have both proved faithful to the trust. If the edges of the wound are much damaged or very ragged they may be vivified before the sutures are applied, but usually this will be unnecessary. Before the abdominal wound is closed the accurate coaptation of the vesical wound should be tested by moderately distending the bladder with water or milk, and if there be any escape between the sutures, an additional stitch applied.

Whether a small drainage-tube of sufficient length to reach to the bottom of the pelvis should be secured at the lower angle of the abdominal wound, is a question. Mr. Heath believes that in his case it not only did not serve the purpose for which it was inserted, but actually caused and intensified peritoneal inflammation. Finally, a catheter should be retained in the bladder with constant and gentle aspiration, or, if preferred, a drainage-tube may be inserted through a small opening into the prostate urethra.

WATER-SUPPLY OF CITIES AND VILLAGES.[1]

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GENTLEMEN: As our "Transactions" will show, for a number of years I have presented several papers on various surgical subjects, and, had I consulted my own inclination, I should again have pursued the same line of thought; but, realizing the great good and influence that our society exerts upon the people as a whole, I have thought best to take up a subject which is now commanding great attention, and must ever continue to do so, while it becomes part of the work allotted to the medical profession.

That all thoughtful members of the human family are ever willing to grant full praise to the worthy divines who have done us so much good, I think there can be no doubt; and that the wise laws, with interpretations given us by eminent jurists, have led us to render great respect to the profession of law is also a recognized truth; yet to neither would I surrender the high and exalted position now occupied by the profession of the healing art in the so-called domain of preventive medicine. The writings of that great man in our profession, who has but recently passed from us—Professor S. D. Gross—are full of the precept-upon-precept teaching and earnest suggestions to the younger men to work in this field of investigation after the causes of disease, for that in it should be found the greatest honor and reward.

In the consideration of this most prominent factor in the cause, production, and spread of disease, water, I know that I am upon ground that has been ably worked by those better prepared by study, and perhaps investigation, than myself, yet I hope in some way to present old and new material in a manner that will work to our mutual instruction and the future good of the different communities in which we move.

[1] Abstract of the Anniversary Address before the Medical Society of the State of New York, at the Eighteenth Annual Meeting, delivered at Albany, February 3, 1886.

We hear it often stated, that in the supplying of pure water to large cities we have not held our own with the ancients. Granting this to be true in the past, I predict that there are those within the reach of my voice who will live to see this assertion thoroughly refuted.

The President then gave a brief outline of the history of obtaining water by wells, which went back to the earliest period of man's existence. The art of boring wells was known about four thousand years ago. After referring to artesian wells, he spoke of *driven wells*, and reached the conclusion that in these wells, put down by the gang method, we have embodied the principle of natural filtration, and that wherever the ground-water is of good quality, and sufficient on trial, of proper depth, and free from possible contamination, it furnishes by far the safest water short of what may be considered nature's purest supply, namely, spring-water.

The applications of the driven-well system for obtaining large volumes of pure water for the supply of a city of six hundred thousand inhabitants is a new departure, and can no longer be considered an important experiment, but an assured success.

As the water obtained by this system comes from depths of forty to one hundred feet below the surface, it is very pure and the supply is steady throughout the year. By other systems the supply is taken from the surface-water, and its quality is often impaired by local impurities, while the quantity in different seasons varies with the rainfall.

The ancients early manifested a desire to procure water from other sources than wells, and by means of aqueducts sought a pure supply even at a great distance from springs, lakes, and mountain sources.

Reference was then made to the aqueduct system as it existed in Egypt and Rome, and at present in India, where it forms a part of the system known to have been employed as far back as the eighth century B.C. The repair and maintenance of these aqueducts became quite expensive, and would be much more so in this country and at the present time.

To every one who is called upon to advise in the question of water-supply, there are certain considerations that must at once claim his careful study and investigation. First to be considered is the quality of the water sought, and no doubt he will, at the present time, have uppermost in his mind the well-known fact that no amount of impure water will cause true cholera and allied diseases, the presence of the microbes being necessary before such waters can do harm in spreading such diseases, although when once there, there is no end to the harm they may do. It is almost hopeless to fight Asiatic cholera with polluted water.

On sanitary grounds soft water is certainly to be preferred; it is true there is no hard water but that can in a manner be softened. One accustomed to drinking soft water should be careful when entering a hard-water section not to drink too freely of the water, and *vice versâ*.

If we consider the quality of water for drinking and domestic purposes, and, that being decided favorable, then at the same time can secure quantity, we have solved the problem for any community.

Beyond a doubt spring-water, as procured from deep springs, or as fed to our mountain lakes, is not only the most palatable but the most wholesome of waters. Next we may rely upon artesian or driven wells, keeping ever in mind the danger of sewage contamination. Large rivers may be made use of, or smaller streams fed by springs and surface-water, but contamination must be guarded against with the greatest care. River-water that has a long distance to run may purify itself from sewage and other forms of pollution, but it, together with water from shallow wells, must be looked upon as dangerous, though it may be pleasant to the taste and sight.

If care be exercised in collecting and storing rain-water, it may be considered safe for drinking and domestic use to a limited extent.

Water, as we are aware, may be clear and sparkling—it may also be palatable—and yet be a disease-spreading water, because of the presence of the germs of typhoid fever, or the microbes of cholera, which no filtration can remove. "The intestinal discharges of typhoid-fever patients, it is well known, contain an infectious agent which has great vitality and enormous power of multiplication and propagation."

One simple fact ought not to lead us into condemning a water-supply, but when we know that certain epidemics have arisen from water-pollution, then we are in duty bound to heed that form of warning, or else suffer that which we might have avoided, and in so doing disgrace the province of preventive medicine.

Now, if we take unpolluted spring-water as our standard, how much may we deviate from it and yet be safe? We must bear in mind that even this source of supply may become contaminated.

Here the President gave an extended review of the late Plymouth epidemic of typhoid fever, and illustrated this part of his subject with elaborate maps.

In the matter of shallow or old wells that have become polluted, public opinion often requires time to crystallize in its exactness or conclusions before sanitary laws can be enforced. The microscopic and biological examination of drinking-water has received a decided impulse in the researches of Koch.

Fortunately, within the past few years biological researches have been conducted with such skill, in the examination of bacteria and microbes, as to largely relieve us of the uncertainty in which the chemists often leave us as to the purity of water. That is, by means of sterilized culture-tubes it is possible to determine as to the amount of disease-germs water may contain.

This method of estimating the potability of waters by the number of living organisms in a given volume has been systematically employed for several years in connection with the sewage irrigation works of Berlin, and the value of the bacterioscopic examination of water has in the last few months been recognized in England.

One great advantage of bacterioscopy over all chemical processes which fail to distinguish between living and dead matter is that it determines the actual number of *living* bacteria in a given volume.

It has long been known that dangerous microscopic animal parasites gain access to the body with the drinking-water.

This is a fact, that water containing an abundance of bacteria contains also enough organic matter to render it unfit for drinking purposes. Fish may thrive at the open end of a sewer that empties *fresh* sewage, but not so if the sewage has become putrid and contains these micro-organisms.

In view of the great difficulty of procuring a sufficient quantity of pure water, and, again, when possible to obtain it, the attendant expense, the question is forced upon us, Can known polluted water be purified?

So far as the answering of this question goes, there are many suggestions offered, but few at all satisfactory. The conclusions of the River Commissioners of Great Britain on this subject are that there is no river in the United Kingdom long enough to secure the oxidation and destruction of any sewage that may be discharged into it, even at its source. While they do not condemn entirely these rivers after an attempt has been made to purify them, yet they do not advise such sources as safe potable waters. These known polluted rivers are often the source of winter diarrhœas, and even more serious consequences, due to the ice-bound condition of the stream preventing the access of oxygen to the water.

Professor Nichols says: "It is certain that we cannot decide with confidence when a stream, once polluted, becomes fit to drink. Moreover, as it is not possible by any practical chemical treatment, or by any process of

filtration, to make a polluted water wholesome, it is safer not to use, as a source of domestic supply, water that is known to have been seriously polluted." We have quoted in this paper the extreme views of two well-known English authorities, but as one reviews the facts carefully he is convinced that a thorough artificial filtration will improve polluted water sufficiently to make it comparatively safe. The method of sand-filtration can be relied upon for the removal of suspended impurities, and it also lessens the amount of organic matter in solution, but the dreadful typhoid-fever germs and like the cannot be reached.

Probably the best material for domestic filters is spongy iron, being superior to animal charcoal; and Bischof, a good authority, lately informs us that filtration through the iron destroys bacterial life, and that water so filtered is incapable of inducing putrefaction in animal matters. Frankland, in his recent investigations, arrives at the same conclusion, and is much in favor of the use of spongy iron for the purification of polluted waters. Then, if polluted water must be used, it should by all means be filtered; and, if there is any suspicion of disease-germs, for domestic purposes it should be boiled from one to two hours, and put in closed earthen or glass vessels in a cool spot for several hours before drinking. The flatness of taste can easily be removed by repeatedly pouring it from one vessel to another until sufficiently aerated. A fresh supply should be prepared every twenty-four hours.

However much it may be deplored, it must be admitted that a large proportion of the waters supplied by public works at the present time require filtration.

The conclusions were that we should, if possible, procure water for domestic uses, first, by gravity and from mountain streams, lakes, or springs; second, the surroundings being safe and proper in every respect, by the gang-syphon driven wells; third, by a system of storage, but so arranging the reservoirs that proper aeration can be employed; and, lastly, if it must be taken from sources known to be polluted, a thorough system of filtration should be employed, and the water as completely oxygenated as is possible before distribution.

Progress of Medical Science.

HYPERTHERMIC SCARLATINA.—M. M. Bloch and Vicente report in the *Revue Mensuelle des Maladies de l'Enfance* for October, 1885, the case of a nursing infant, five months old, who was attacked with scarlet fever. The eruption was well marked on the chest and abdomen, scanty over the other parts of the body, and almost entirely wanting on the face. On the third day the temperature rose to 109° F., and the child had convulsions. A lukewarm mustard bath was given, and the body afterward sponged off, while cold compresses were applied to the head. Within an hour the temperature fell to 107.5°, and by evening was down to 103.8°. Four days later it was nearly normal. The child made a good recovery.

THE INFLUENCE OF THE IODIDES ON NITROGENOUS METAMORPHOSIS.—The precise way in which the iodides act on the tissues of the body is a subject still involved in obscurity. Their favorable action in various diseased conditions is universally known, but their effects in healthy subjects have received very little attention. Dr. Smirnoff, of St. Petersburg, has undertaken a series of experiments to elucidate the topic in question, especially, however, the influence of the iodides of alkalies on nitrogenous metamorphosis. He directed his attention chiefly to the general nutrition, growth, and development of young animals that received daily iodide of sodium to the amount of two drachms, or iodide of potassium of a little over one drachm. The results obtained by Dr. Smirnoff may be stated as follows: 1. Iodides of alkalies undoubtedly increase disintegration of the proteids of the body; hence an increase of nitrogenous products, as well as of phosphoric and sulphuric acids, is observed; the general systemic nutrition fails, and there appears wasting of the body. 2. Under prolonged use of iodides, the assimilation of nitrogenous elements of the food decreases. 3. The digestive function of the gastric juice fails, though the quantity of the juice remains unchanged. 4. Under prolonged use of iodides there appears albuminuria (on the sixteenth, twenty-sixth, and thirty-second days). 5. Iodine is not eliminated from the body very quickly, as is generally supposed; it may be stored in the system and eliminated only gradually. [In one of the experiments iodine entirely disappeared from the urine only on the fourteenth day afteri ts ingestion; in another, only on the twenty-second.] 6. Iodides of alkalies seem to have no irritant action on the gastro-intestinal mucous membrane. Considering the experimental data above in connection with clinical facts, Dr. Smirnoff comes to the conclusion that a favorable therapeutic action of iodides in syphilis, goître, scrofula, and allied disorders, cannot be explained exclusively and directly by an increase of nitrogenous metamorphosis in consequence of the administration of the drugs; the explanation is to be sought rather in the fact that iodine, being introduced into a diseased system, acts before all and most intensely on morbid products which are less durable and more easily yield to all possible influences than normal tissues of the animal system.

CHOREA AND TYPHOID FEVER.—That typhoid fever may abolish chorea is a well-known fact. It does not seem to be so generally known that typhoid fever may originate chorea. Rilliet and Barthez have observed the development of chorea in a patient who was ataxic after typhoid fever. Benedict has also described a tremor of the head with unilateral convulsions. Nothnagel and Ebstein have witnessed choreiform disorders consecutive to pythogenic fever. But if chorea may be regarded as of rare occurrence during convalescence from typhoid fever, it is extremely rare during the actual course of typhoid fever. Peiper has recorded the case of a girl, aged sixteen, who was attacked with typhoid fever, from the first commencement of which involuntary movements of a foot were observed. On the ninth day, however, chorea was fully established, apparently as the result of a violent emotion caused by the receipt of the news that her mother had just died from enteric fever. From the description, it would appear that the chorea was general and severe. It lasted altogether ten days, and during the whole time considerable pyrexia was present. The fever ran a normal course, and convalescence ensued naturally. There was a systolic murmur of obscure character, which finally disappeared. The dependence of the chorea on the cardiac lesion was regarded as out of the question.—*The Lancet.*

IDIOPATHIC PNEUMOTHORAX.—Dr. Desmaroux reports the case of a young and exceptionally strong man, who had never been sick, and in whose family there was no history of tuberculosis, who was taken suddenly, while walking, with repeated chills and a very severe pain under the right breast. There was a feeling of great oppression in the chest, and the man staggered in walking, and was obliged to sit down every few minutes to rest himself. Examination showed a bulging of the right side of the chest, and percussion gave a tympanitic resonance, while a feeling of elasticity in the thoracic wall was imparted to the percussing finger. There was complete absence of the normal respiratory murmur, which was replaced by a characteristic amphoric blowing sound. Coughing was performed with difficulty and was without expectoration. Three days after the disease, the patient became delirious, and died. The author believed that this was a case of pneumothorax due to an excretion of gas from the pleura, and not caused by rupture of a healthy lung.—*Centralblatt für Klinische Medicin*, December 5, 1885.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 6, 1886.

STATE REGULATION OF THE PRACTICE OF MEDICINE.

UNDER this title, Dr. William C. Dabney discusses, in *The Physician's Magazine*, the present aspect of the subject indicated, and gives some of the results which have been reached by the Virginia State Board of Examiners, of which body he is the president. He discusses, first of all, the desirability of such laws in their application both to the protection and welfare of the community, and to the general subject of raising the standard of medical education. Not content with general reasoning, he adduces some very definite facts brought to light by this State Board. There have thus far appeared before it thirty-nine candidates. All but two of these were graduates of reputable colleges situated in various parts of the country. Of this entire number, eight were rejected. The answers given by some of the candidates to questions on professional topics were certainly unique, and we cannot forbear mentioning a few of them. For the chemical name of common salt, "bicarbonate of soda" was given. The indications for treatment in cholera morbus were considered to be, first, the quieting of the pain, and secondly, removal of the irritant by "*the stomach-pump*." The vexed question of the preferable way of treating diphtheria was settled by one man to his own satisfaction, at least. It was "belladonna, argenti nitras, aqua calcis, and prophylactics." Apoplexy was defined as a "congestion of the brain, coming on at different times." One man (evidently not a lover of Izaak Walton) mentioned among the causes of hip disease, "taking cold sitting on damp ground; sitting on the banks of rivers, fishing." The centres for will, memory, etc., were located by one candidate in the "spinal marrow." In what light he regarded the cerebrum is not stated. The climax was capped, however, by the answer to the question for an account of the method for ligating the subclavian artery. The candidate advised the Fabian policy that "the patient should be kept quiet and watched clost."

We learn that twenty-nine States and Territories have passed laws to regulate medical practice. In five of these States, viz., Alabama, Arkansas, Mississippi, North Carolina, Virginia (all Southern States, it will be observed), diplomas alone are not sufficient to give a man a legal standing. He must meet the requirements of the State Board. In two of these five States, all graduates are examined by County Boards, and all non-graduates by a State Board. In respect to the legal safeguards thrown about medical practice, North Carolina seems to be the banner State, and she seems to show her faith by her works; for at one of the recent meetings of her State Board, eleven out of fifty-three applicants were rejected, and seven more given leave to withdraw—a practical rejection of one-third of all the applicants.

These facts show that in some sections of the country, at least, the profession is alive to its own interests, and has succeeded in impressing the general public with a sense of its own relations to the important subject of medical education. The practical results in these foremost States have been decidedly encouraging. They have shown that requisite legislation can be brought by perfectly dignified and legitimate methods of agitation; and furthermore, that the enforcement of such legislation can easily be made an assured fact. The question has been agitated in our own State many times. The establishment of a State Board will do more than any other thing, perhaps, to raise the standard of medical education. We have often spoken of the material reasons which lead our medical schools to compete for the attendance of students. This competition is kept up year after year, and its outcome is a lowering of the standard of graduation requirements. The offer is virtually made to students, "Give us your money, and we will put you through." Another pernicious practice is the endorsing of diplomas from colleges in other States, in order to enable the holder of such diploma to obtain full standing under the present statutes. We are glad to note that the University of Pennsylvania has decided not to endorse any more diplomas, unless the applicant shall pass before its own medical faculty a full examination in the seven recognized departments of medical study, including pathology and morbid anatomy. In one of our recent Society meetings, a resolution was introduced looking to an investigation into the prevalent mode of endorsing diplomas. We trust that measures will soon be instituted which may lead to the abolition of the entire system.

The moment a State Board begins to demand a more thorough preparation on the part of men desiring to practise medicine, so soon will the medical colleges begin to demand some decent educational qualifications of its students. That institution which has the hardihood to take such a step and stick to it, will eventually be the gainer. Such a step would primarily result in a reduction of income; secondarily, the institution would be the gainer, because it would gather the best elements from the whole mass of students.

Practical precautions necessary for a State Board are forcibly expressed by Dr. Dabney. The Board should have no connection, collective or individual, with any teaching body. Its members should be nominated, at least, by physicians, who could better judge than laymen of the fitness of any particular man for appointment. It is in no trades-union spirit that these reasons are set forth. We have no right to say to a man or woman, you shall or you shall not study medicine. His or her claim to be allowed to practise must be substantiated before a competent Board of Examiners, free to act, knowing neither fear nor favor.

THE REACTION OF THE GENITAL DISCHARGES OF WOMEN.

SOMETIME ago M. Martineau announced that in blennorrhagia in the female the pus was acid, while in simple vaginitis its reaction was alkaline. The acidity of the blennorrhagic secretion was, therefore, a diagnostic point of much practical value. Since then Martineau has modified his statement, and only claims that the blennorrhagic pus is always acid, not that the secretions in simple vaginitis are invariably alkaline.

The statements made, however, have led Dr. P. Ménière, of Angers, to report the results of some investigations regarding "the chemical reactions of the normal and morbid humors of the female genital apparatus." Dr. Ménière asserts that the secretions of the vulvar sudoriparous glands, muciparous follicles, sebaceous follicles, and the vaginal wall are always normally acid, while the secretions of the glands of Bartholin and of the uterus are alkaline. In vulvitis and vaginitis, simple or specific, the reaction of the secretions is generally if not always acid. In endometritis the reaction of the pus is alkaline.

Dr. Ménière has extended his investigations into an inquiry as to the variations in the reactions of vaginal and uterine secretions in various morbid states. He announces to us as one result of his studies a point of distinction between the sexes which has not, we believe, been heretofore generally recognized, viz., that the "human organism is essentially alkaline," but that "woman is less alkaline than man." This alleged hypo-alkalinity, or extra acidity of the gentler sex has been perhaps noted already by philosophers and students of the domestic relations, but its existence has not been before placed upon a sound scientific and somatic basis.

Dr. Martineau has observed that in states of debility the alkalinity of woman, as measured by her vulvo-vaginal secretions, decreases, or, what amounts to the same thing, her acidity increases, yet the uterine reaction continues alkaline, though more feebly so. During pregnancy, and at about the time of the menses, the secretions from the genitals in women who are not in robust health may become too acid and cause a pruritus vulvæ. A case is reported in which a husband always got herpes præputialis during the latter part of his wife's pregnancy.

This increased acidity of the discharges in debilitated women causes in some instances sterility, and it is known that relief has been obtained for that condition by the use of alkaline injections. The larger amount of leucorrhœa in women who live in cities or under unhygienic conditions is attributed to this tendency on the part of the subacid sex to have too great acidity of their vaginal secretions.

MODERN METHODS OF PHYSICAL DIAGNOSIS.

THE art of physical examination of the chest for the purpose of obtaining objective evidence of disease has made considerable progress, even in late years, particularly in the refinements and niceties of such examinations. An admirable little work, recently written by Dr. Hudson,[1] gives one, in a concise way, an idea of the numerous methods and the elaborate technique which now make up the art of physical diagnosis of thoracic diseases. Years ago we recall studying a small manual in which we heard of very little except percussion and auscultation. Now we find eight methods of examination laid down, viz., inspection, mensuration, palpation, percussion, auscultation, auscultatory percussion, succussion, determining situation and size of surrounding organs, to which must be added, according to Dr. Arthur Ransome, the use of the stethometer and the study of vital capacities and of the respiratory and cardiac rhythm. In actual practice a very common and useful addition, also, to the methods of physical examination is the hypodermic syringe, by which the fact and the character of a pleuritic effusion can be absolutely established.

In the actual practice of physical diagnosis, however, it is still inspection, percussion, and auscultation which are the main sources of our information. Modern research has probably done more in the way of teaching the exact and careful use of those methods than in adding anything absolutely new to them. Still further, however, modern teachings give a vastly more correct interpretation of the significance of these signs which physical examination brings out.

It may be of interest to note the numerous technically recognized variations from health, as recorded by Dr. Hudson. On inspection one may observe abnormal expansion and bulging, retraction and depression, procidentia (of the shoulders and upper lung) and elevation, curvature, and distortion.

Palpation, or the laying on of hands, may reveal some half a dozen varieties of fremitus, viz., respiratory, vocal, tussal, bronchial, pulsatile, and friction. By percussion one gets variations in duration, intensity, and pitch, but especially in quality, of which the chest-wall produces six varieties: the hard, soft, tubular, amphoric and cracked-metal.

Naturally auscultation furnishes the richest evidence of pathological changes. We find recorded, for example, seventeen different changes from the normal conditions of the respiratory sounds. Besides these is the long list of rhonchi, râles, and pleuritic noises.

Students might well feel a little discouraged at the elaborateness with which the study of physical diagnosis has been carried out. Yet the mastering of the essentials is not a difficult task, provided our colleges can give the requisite clinical opportunities. And the discipline which results from a careful training in these details, all of which help to make our art more exact, is of immense value to the medical student. The besetting sin of many practitioners is their disinclination and incapacity to make thorough and searching examinations of their patients. It is the application of these and other methods of physical examination which will show eventually that science is a safer thing than quackery.

[1] Essentials of the Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A.M., M.D. New York: Styles & Cash. 1885.

PRACTICAL MATERIA MEDICA.

A CORRESPONDENT sends us a vigorous and breezy communication upon the subject of practical medicine, and more especially upon the need of winnowing the chaff from the wheat of our materia medica. He refers in illustration to the immense amount of rubbish and uncertainty that there is in our present works, while in all other departments the student and physician is loaded

down with a mass of statements, discussions, and theories, which he thinks only confuse and hinder one in the practice of the medical art.

"Now the remedy," says our correspondent, "as I take it, will be the institution, in reality as well as in name, of a series of works known as 'Practical Materia Medica,' 'Practical Practice,' 'Practical Obstetrics,' etc.

"Permit me, in as few words as possible, to define what I mean by practical materia medica. Let us have a work embracing facts, and facts only; practical points, and practical points only; a full index and *no* preface. How in this realm of doubt can this be done? In this wise. Let us take opium for example. We certainly can give a clear history, and a careful description, including known incompatibles. Let us give such physiological effects on man (not grasshoppers, cats, and guinea-pigs), and *such* effects alone as are known and accepted by the medical world, carefully avoiding and excluding all points now in question. State that in some cases it produces wakefulness, but do not attempt to account for the fact. *Don't* say it is because the vaso-motor system of nerves fails to respond to the stimulus applied to the sympathetic system, thereby failing to produce that peculiar anæmia of the cerebrum necessary to the soporific effect. *Don't;* because some poor student will try to remember the unknown and imaginary reason and forget the fact. Let us take quinine. We all know that it cures ague, except in certain very exceptional cases, and why it don't cure those we *don't* know. Now if this were the only fact known to medical science, it would be enough to justify the beginning of a practical materia medica. We all know that in every case of fever resulting entirely or in part from septic poisoning, quinine has a wonderful antipyretic effect. We must needs, therefore, teach in our modern elaborate materia medicas, and in lecture-rooms, that quinine, without qualification, is a wonderful antipyretic.

"The result is our young graduate goes home, finds a robust farmer with an acute inflammation and temperature of 106° F., gives him promptly thirty grains of quinine, increases the fever, sets him crazy, and puts the whole house in an uproar, and finally goes back to his books, hoping to read, but really to meditate, on the uncertainty and often impracticability of medical science. We turn to our materia medica and find the officinal opium suppository one grain. No account of a suppository made containing less than one grain, and yet I remember, in my early practice, being called to see an old and feeble, but very influential gentleman, who died from opium-poisoning, produced by a one-grain suppository. Every good physician learns, not from materia medica but from his own experience and at the expense of his patients, the careful use of comparatively few remedies.

"There is no physician of more than five years' practice, let him be of high or low degree, who cannot recall many of his unsuccessful cases, which might have resulted favorably had his early teaching been eminently concise and practical. Let us admit no remedy, therefore, into our materia medica, except those endorsed, not by any single practitioner, but by the medical world. Do you think this a difficult task, and that one practical and compendious volume would contain no new remedies? How recent the discovery of cocaine, yet no doubt its history has reached every village and hamlet in the civilized world. Why are not our medical journals filled with the wonderful properties of Jamaica dogwood, manaca, and celerina? Nor will such practical work impede our rapid advancement, but rather greatly enhance it in this, that it will not be man's highest ambition to introduce a new and worthless remedy, or to model a new speculum, but to introduce a remedy or fashion a speculum that will find its way into our practical series, not only because of its intrinsic worth, but because it is recognized by the great thinking, throbbing medical world to be a thing of practicability and a joy forever.

"In THE MEDICAL RECORD of November 7th is a report of a meeting of the New York Academy of Medicine, held October 22d. Before the Section on Obstetrics a paper was read entitled, 'The Management of Unfavorable Cephalic Presentations at the Superior Strait,' wherein the writer maintains, with reference to diagnosis by digital examination, that 'one suture could not be distinguished from another with satisfaction; nor, by means ordinarily practised could the fontanelles be differentiated.' If this be true, why have we deluded ourselves into the belief that we *could* distinguish and differentiate? The writer further states, 'Something more definite must be searched for, and that was the ear, and to do that the hand must, to a greater or less extent, be introduced into the vagina.' In the discussion that followed, this proposition was universally admitted by gentlemen eminent in their profession. Where is the general practitioner, where is the new-born obstetrician, who has not sweat (figuratively) great drops of blood; who has not vilified his own stupidity in his endeavor to perform that which now, I believe for the first time, is *thoroughly* admitted to be *thoroughly* impracticable."

"In the name of *truth*, in the name of the *general practitioner*, but especially in the name of the *medical student*, let us have not only a practical materia medica but a practical practice, and a practical obstetrics."

Our correspondent is quite right in his advocacy of facts as the basis of our medical manuals. In materia medica, particularly, there is nothing more urgently needed than the elimination of a hundred or more useless or superfluous drugs. A society and a medical journal which would take for its object the showing what drugs are not needed would do for medicine an immense service.

THE MEETING OF THE STATE SOCIETY.

WE are glad to notice that the meeting of the Medical Society, held this week in Albany, has been a great success. Not for many years has the attendance been so large, nor during a similar occasion have a greater number of papers of merit been presented and discussed. The new plan of securing a provisional business committee has worked well. The distinguished President, Dr. Vander Veer, deserves the lion's share of praise for the manner in which he discharged the duties of his high office, and for the admirable and judicious presentation of the matters pertaining to the vital interests of the profession of the entire State. He voices the sentiments of the large majority of medical men of the Empire State when he refers, more in sorrow than in anger, to the recent disagreements regarding ethical questions bearing upon

the relations of the Society to the American Medical Association and the forthcoming International Congress. When these differences are calmly discussed they sink into comparative insignificance. Already the properly conservative elements of both parties, not only in this State, but elsewhere, have the whole matter entirely in their hands, and will, we doubt not, be soon ready to meet on a common platform of harmony. In reality we are not far from it already. The sooner the extremes of both sides cease to pose as martyrs, and sink purely personal issues, the sooner will the proper reconciliations be made. But this is only by the way, and the Medical Society of the State of New York, more powerful and more successful than ever, is disposed to be reasonable, conservative, and just. The question of State examinations in medicine comes up yearly, but none too often until it is settled against the avowed and purely private interests which now so actively oppose it. The time must come when we must have independent State examinations in medicine, whether the colleges like it or not. If we fail one year, we are willing to try it the next. The scientific element of the meeting was well represented by leading men from the principal cities, our own little town offering its mite. The papers were, as a rule, short, practical, and therefore instructive. It is sometimes astonishing to see how much limited time and space will do toward shortening sentences, condensing sentiment, and quickening wit.

News of the Week.

THE WORK OF THE SMALL-POX IN MONTREAL.—We learn from the Secretary of the National Board of Health that the total number of deaths from small-pox in the city of Montreal, from the beginning of the epidemic in April to December 31st, was 3,164, as follows: In April, 6; May, 10; June, 14; July, 46; August, 239; September, 659; October, 1,393; November, 633; December, 165. There were also 363 deaths from measles, typhoid fever, and diphtheria during the year, and the total mortality from all causes during 1885 was 7,885, as against 4,358 during 1884.

CHOLERA IN JAPAN, SPAIN, AND FRANCE.—Dr. W. P. Dunwoody, Secretary of the National Board of Health, writes that the United States Consul at Hioga, Japan, reports that during the month of October last 1,208 cases and 628 deaths from cholera were reported in Osaka vicinity, and in Hioga and Kobe there were 354 cases and 227 deaths from cholera during the same period. During the month of November there were 58 cases and 47 deaths from cholera. In the province of Huelva, the extreme southwestern province of Spain, there were, from November 6th to 26th, 42 deaths from cholera. In France, the cholera was still prevalent in the Department of Finistère on December 7th, the date of our last report. During the twelve days from November 26th to December 7th, inclusive, there were 160 cases and 62 deaths.

ÆSCULAPIA VICTRIX.—Under the title "Æsculapia Victrix" Mr. Robert Wilson contributes to the current number of the *Fortnightly Review* an interesting account of the rise, struggles, and present position of the London School of Medicine for Women. This brief sketch of the origin and history of the movement for educating women to undertake the duties of professional life is presumably, says the *Medical Press and Circular*, designed to reawaken the sympathy of the public on behalf of an object that is undeniably a good one, and which just now derives additional importance in connection with the movement in which Lady Dufferin is deeply interested, for supplying female physicians to act as medical attendants to the native women of India. More money is needed to help on the school.

"WONDERFUL SURGICAL OPERATIONS."—New York, Philadelphia, and other medical centres are not alone in being treated by the daily press with accounts of "wonderful operations." Sir William MacCormac recently performed tracheotomy at St. Thomas's Hospital, and the operation and operator received the admiring comments of the *Daily Mercury* and other papers.

TROUBLE IN THE PHILADELPHIA COUNTY MEDICAL SOCIETY.—As misery is reported to be fond of company, New Yorkers may perhaps sympathize with their Philadelphia brethren in their present trouble. The Philadelphia *Medical Times* says: "At the stated meeting of the Philadelphia County Medical Society held on January 6th, for the purpose of electing officers, the regular nominations for delegates to the State organization and the American Medical Association were set aside, and a new ticket introduced and elected by a proceeding without a precedent in the history of the Society. Now that the meeting is over, and we review its proceedings, we feel that no one who was present can escape a sense of mortification at the disorder which prevailed during the discussion, if not of regret for the results of the ballot. It is true that, by the concerted action of one hundred and fifty members, the Society (whose entire membership is nearly five hundred) finds itself with a bad precedent established, and with a lively factional quarrel in prospect."

AN INQUIRY INTO THE ABUSES OF MEDICAL CHARITY in Liverpool, recently made, showed that 298,000 persons received gratuitous medical relief annually in that city. There were forty-eight medical relief societies, with an annual income of over two hundred thousand dollars.

PATIENTS' NAMES AND PATIENTS' SECRETS.—A German practitioner has been sentenced to a fine of $375 for "unauthorized publication of secrets." He seems to have been exorbitant in his fees; but the offence with which he was charged was that of displaying, in a public refreshment-room, a bill of fees to a certain gentleman, which set forth that the attendance was on his wife for a "sexual complaint." The laws in most continental countries distinctly recognize the obligation of medical men to keep the secrets of patients whom they attend professionally.

AS ONE RESULT OF THE HYDROPHOBIA SCARE in London, seventeen thousand dogs have recently been suffocated.

A MEDICAL DIPLOMAT, M. Paul Bert, has been appointed Minister Resident in Annam, Tonquin, and Gambodia.

THE PAUPER LUNATICS of England cost the government nearly two and a half millions last year. The lunatic asylums of the United States cost about fifteen million dollars annually.

A PROJECT TO ESTABLISH A NATIONAL BUREAU OF HEALTH AT WASHINGTON.—Representative Davis, of the Fall River district of Massachusetts, introduced during the past week a bill "to prevent the introduction of contagious and infectious diseases into the United States, and to establish a bureau of public health." It provides for the appointment by the President, with the approval of the Senate, of a Commissioner of Health, to be chosen from civil life, and to receive a salary of $4,500 a year. He is to be the head of the bureau, which is to be attached to the Department of the Interior. The Department of State is required to obtain from consular officers in foreign ports and places all available information in regard to the sanitary condition of such ports and places, and transmit the same to the bureau. The Commissioner, under the direction of the Secretary of the Interior, is to frame rules which, when approved by the President and issued by the Department of State, shall serve for the instruction of consular officers of the United States, and of the medical officers serving at any foreign port. In compliance with these rules every master of a vessel destined for a port of the United States must be furnished with a certificate containing a detailed statement of the inspection of the vessel, cargo, crew, and passengers, and of the sanitary measures carried out at the expense of the vessel; or, if such measures are not carried out, instant warning is to be transmitted to the bureau. The bureau is charged with the investigation, both in this country and in others, if necessary, of the nature, origin, and prevention of infectious and epidemic diseases, as well as of the causes and conditions of particular outbreaks of disease in the United States, and with the publication and distribution of documents relating to the prevention of disease. The President is authorized, when requested by the bureau, to detail officers from the several departments of the Government for temporary duty, to act under the direction of the bureau without extra compensation; and when a detail of suitable officers cannot be made, the Commissioner may employ experts for such time and in such manner as the funds at the disposal of the bureau may warrant. The bill appropriates $75,000, to be disbursed under the direction of the Secretary of the Interior, on the requisition of the Commissioner of Health; repeals the law of 1879 establishing the National Board of Health, and is to go into effect sixty days after its passage, within which time the Commissioner is to be appointed.

THE HOUSE OF JOHN HUNTER.—Mr. John J. Merriman writes to the *British Medical Journal*: "The house which John Hunter built in 1764, on his own freehold at Earl's Court, Kensington, together with the grounds, dens, etc., so little changed since his day, will soon be obliterated; and those members of the profession who care once again to visit the home of 'the greatest man, in the combined character of physiologist and surgeon, that the whole annals of medicine can furnish' (Sir William Lawrence), should go to Earl's Court House without delay. When Frank Buckland visited this historical spot, on June 23, 1871, he wrote: 'I almost imagined I was in the presence of the great man himself, so little is the place changed.' A full account will be found in *Land and Water*, July 6, 1871, and also in Buckland's 'Log-book of a Fisherman and Zoologist,' 1875. The memory of John Hunter will always be kept up by his immortal discoveries in surgery, physiology, and natural history, by his Museum at the Royal College of Surgeons, and by the window in the parish church of Kensington, but many will lament the demolition of that 'Home' in which he worked so vigorously for nearly thirty years."

THE JOHNS HOPKINS UNIVERSITY AND ITS MANAGEMENT.—A correspondent in Baltimore writes us: "For some time past there has been considerable dissatisfaction with the manner in which the 'Johns Hopkins' bequest is handled. An effort was made by the minority of the trustees to have the University opened some months ago, but they were outvoted. The same gentlemen, knowing Mr. Hopkins' wishes in the matter, desired the University to be located at Clifton, the beautiful country residence that Mr. Hopkins donated for this particular purpose. Again were they voted down. A bill has been introduced into the State Legislature, asking that a committee be appointed to ascertain whether the wishes of Mr. Hopkins have been carried out or not."

A HEALTH DEPARTMENT FOR JAPAN.—A Health Department has been established in Japan under Dr. Mansanori Agata, Professor of Hygiene in Tokio, who studied for several years in Munich, Leipsic, and Berlin, and in particular worked for a lengthened period in the laboratories of Pettenkofer and Koch. Since his return to Japan he has carried out the German methods of bacteriological research, and has by this means investigated the disease beri-beri, which is indigenous to Japan.

VEXATIOUS DELAYS IN LUNACY CASES.—Dr. E. C. Spitzka, of this city, writes: "In regard to the letter of Dr. Hardy, published in your issue of January 30, 1886, and in which he states that he has not been subjected to 'vexatious delays,' that he has always found the judges 'agreeable and accommodating,' and in which he takes exception generally to some statements made in an editorial of THE MEDICAL RECORD of January 9th, permit me to state the following: (1) Dr. Hardy's statement is correct as far as most of the judges of the New York Supreme Court (particularly Judge. Donohue, who actually goes out of his way to accommodate physicians) are concerned. (2) Dr. Hardy is known to the majority of the intelligent members of the bench (who do not necessarily constitute a majority) as the examiner in lunacy matters for the City Prison and Reception Pavilion of Bellevue Hospital, and naturally has privileges accorded him which the general practitioner seeks in vain. His experience with judges is therefore exceptional. (3) Dr. Hardy, if he desire to commit a patient before a judge of the New York Superior Court, will be compelled to fee the clerks of this court. The undersigned and one other physician are willing to make an affidavit to the effect that such a fee, as well as other compliances with an absurd and antiquated red-tape system, are required of him in the presence of the chief clerk of said court. (4) Individually, I am willing to make an affidavit to the effect that, in so far as the

Superior Court, through its clerks and other so-called officials, extorts fees from physicians as a condition of approving certificates of insanity, it does not do so in compliance with any legal enactment, or in obedience to any principle of common law or of common sense. Probably the judges know nothing of this practice, which is merely a collateral source of income for a pair of hungry clerks. The fact that the Supreme Court and the Court of Common Pleas approve such certificates without this absurd and mercenary routine demonstrates the truth of the above proposition. (5) The writer, like Dr. Hardy, has an intimate knowledge of law courts and some acquaintance with judges, and has had repeated occasion to express his gratitude to members of the bench for their complaisance and courtesy in cases where the urgent commitment of an acute or dangerous lunatic was required. But where does the general practitioner, although he be a qualified examiner in lunacy, come in? Who is compelled by law to do the legal part of that duty of which the physician is compelled to take the moral and (if sued) the financial responsibility?"

Reports of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eightieth Annual Meeting, held in Albany, N. Y., February 2, 3, and 4, 1886.

FIRST DAY—TUESDAY, FEBRUARY 2D—MORNING SESSION.

THE Society convened in the Common Council Chamber, City Hall, and was called to order at 10 o'clock by the President, DR. ALBERT VANDER VEER, of Albany. Prayer was offered by REV. WALTER D. NICHOLAS.

The PRESIDENT then delivered his inaugural address, at the close of which he appointed the following

COMMITTEES.

Business Committee—Drs. W. W. Potter, of Buffalo, Daniel Lewis, of New York, and A. M. Phelps, of Chateaugay.

Committee on Credentials—Drs. S. W. Freeman, of Albany, W. B. Chase, of Brooklyn, and McFee, of Franklin.

INAUGURAL ADDRESS.

After thanking the Society for the honor it had conferred upon him, and making reference to the new law permitting the Society to regulate its own membership, the President recommended that every alternate year the meeting of the Society be held in some other part of the State than Albany, the place to be determined by the Nominating Committee; called attention to Dr. Jacobi's circular concerning collective investigation of disease; and that the power lodged in the Regents to confer the honorary degree of medicine should be a matter for consideration at this meeting.

He then referred to the humiliating action of the American Medical Association at its meeting held in New Orleans, with reference to the International Medical Congress, the result being that the meeting of the Congress has been rendered doubtful, or, if it meets, its success has not been insured. Reference was also made to the interpretations given by the American Medical Association as a step in the right direction, differing but little from our own view of the question.

He also acknowledged the receipt of a circular from the American Medical Association, concerning the securing of a law which would establish a State Board of Medical Examiners, and the President expressed the hope that we might soon see State control doing that good which has already been accomplished in other States.

He also urged that steps be taken to add to the medical library, and recommended that his successor continue a temporary Business Committee which had so greatly facilitated the work of the present meeting.

Special reference was made to the deaths which had occurred during the last year, and special mention was made of Norman L. Snow, of Albany, with Little and Elsberg, of New York, W. W. Porter, of Syracuse, W. B. Carpenter, and Dr. Van Dusen.

In conclusion, the President announced the serious illness of our honored Vice-President, Alfred C. Post, M.D., LL.D., of New York.

At the conclusion of the address, DR. S. OAKLEY VANDER POEL, of New York, offered a resolution expressing the sympathy of the Society with Dr. Post in his illness, and expressing the earnest hope that he may speedily recover, which was unanimously adopted.

DR. W. W. POTTER, Chairman from the Business Committee, recommended the appointment of a committee to invite the members of the Legislature, the Governor and Lieutenant-Governor, and other *ex-officio* honorary members, to attend the meeting of the Society.

THE PRESIDENT appointed Drs. W. C. Wey, of Elmira, H. G. Piffard, of New York, and W. E. Ford, of Utica.

The Business Committee also recommended the appointment of a committee on the President's inaugural address.

The Committee consisted of Drs. F. R. Sturgis, of New York, W. S. Ely, of Rochester, and H. S. Hopkins, of Buffalo.

INVITED GUESTS.

DR. S. B. WARD, of Albany, Chairman of the Committee of Arrangements, announced the following: Drs. J. L. Corning, Ephraim Cutter, Robert T. Morris, William Stevens, of New York; N. A. Powell, of Ottawa, Canada; Frederick Petersen, of Poughkeepsie; Samuel Morris, of Albany, and G. H. Pryor, of Buffalo.

COMMUNICATIONS FROM COUNTY MEDICAL SOCIETIES.

BIOGRAPHICAL SKETCHES.

DR. WESLEY M. CARPENTER, of the County of New York, presented biographical sketches of James L. Little, M.D., by D. B. St. John Roosa, M.D., LL.D.; and Louis Elsberg, M.D., by Morris H. Henry, M.D., LL.D., which were referred to the Business Committee and subsequently recommended for publication.

Dr. Carpenter also presented amendments to by-laws which had been adopted by the Medical Society of the County of New York, which were referred to the Committee on By-Laws.

REPORT OF THE COMMITTEE ON LEGISLATION.

DR. F. R. S. DRAKE read the report, which gave a brief review of the work done by the Committee during the year. It also appeared that the bill providing for a State Board of Medical Examiners had been again introduced into the Legislature.

The Act to enable the Medical Society of the State of New York to regulate its own membership had become a law. The report of the Committee was accepted and adopted.

An excess of $98.00 expended by the Committee was ordered paid.

The Business Committee recommended that the time for each reader of a paper be limited to *twenty minutes, maximum.* Adopted.

DR. C. L. STILES, of Owego, then read a paper containing the history of a case of

ABSCESS OF THE KIDNEY

occurring in a man fifty-seven years of age, the result of traumatism, and in which there was very notable increase

in the size of the tumor in twelve hours, without rigor or pain, attended by a small amount of pain and general disturbance during the illness, and accompanied by a sudden discharge into the bladder.

Dr. J. Leonard Corning, of New York, invited guest, read a paper entitled

THE CURATIVE POTENCY OF PROLONGED SLEEP,

and in which he also referred to the potent influence of scientific feeding. He spoke of three conditions, muscle rest, spinal rest, and cerebral rest, and while considering these conditions mentioned Weir Mitchell's method of treatment for these classes of cases as the most efficient, except for cases of cerebral exhaustion and irritability, where confinement in bed is positively harmful.

The paper was referred to the Committee on Publication.

Dr. B. F. Sherman, of Ogdensburg, then read a paper in which he reported

A CASE OF EMPYEMA

treated successfully by the use of the valvular drainage-tube and improved aspirator devised by Dr. A. M. Phelps, of Chateaugay, and presented to the Society *six* years ago. The patient was a male nineteen years of age, and complete expansion of the lung took place.

Dr. W. S. Ely, of Rochester, then read a paper on a cognate subject, that of

PULMONARY CAPACITY,

in which he spoke of natural and acquired defective chest expansion, and advanced the view that lung expansion can be relatively increased by a series of exercises which may be called pulmonary gymnastics; this can be accomplished by bringing into special exercise the auxiliary respiratory muscles. He believed that the subject was of sufficient importance to secure the attention of medical men, to whom such cases should be referred exclusively for the instructions proper to be observed in each case. The mode of management is not applicable to acute cases.

Discussion on both papers was opened by Dr. A. M. Phelps, who described his valvular tube, and gave the credit to Dr. Lee, of London, who published the same views a short time before he read his paper before this Society. The aim is to obliterate the pus cavity, which is accomplished by emptying it of its contents and then approximating its inner surfaces. In the case of empyema, the yielding surface is the lung, which is capable of expansion.

Dr. A. L. Loomis, of New York, said that the length of time the lung may be crowded up under the clavicle, and yet be restored to its normal condition, depended upon the amount of change in the pulmonary pleura; if there is no change the lung may remain compressed, and perfect expansion occurs when the fluid is removed.

With regard to the treatment which will result in the perfect expansion of the lung in cases of acute suppurative pleurisy, such as Dr. Sherman's was, if compression was removed within one or two months, certainly if within one or two weeks, we might expect complete expansion of the lung. In such acute cases the fluid should be removed as soon as it is formed, and aspiration is rather worse than no treatment, according to his experience. The only proper course is to make a free opening at the most dependent part of the cavity—a single one is usually sufficient, if made early—and the introduction of a drainage-tube. If the pus is not gangrenous, has no odor, he believed that washing out the cavity is entirely unnecessary.

With regard to pulmonary gymnastics presented by Dr. Ely, if applied when the person is below par, they enfeeble rather than invigorate. Pulmonary gymnastics for pleuritic adhesions, and in pulmonary diseases, is another question. With regard to prolonged muscular effort, such as rowing, etc., in young men developing, he believed, was laying the foundation of cardiac disease and of pulmonary phthisis in very many cases.

Dr. Jacobi, of New York, favored washing out the pleural cavity when the fluid contained flocculi, and said that if the operation in empyema was performed antiseptically, and the chest dressed with the same precautions, the dressings need not be removed oftener than once in three, four, or five days, perhaps longer, and in this way favored the reduction of the quantity of fluid in the pleural cavity.

With reference to Dr. Ely's paper, there was one class of cases in which such management was beneficial, namely, those in which ossification of the upper cartilages of the ribs occurred so as to narrow that portion of the chest. By such treatment the lung might be expanded considerably upward and downward.

The paper was further discussed by Dr. Fraser, of Camden, Oneida County, and Dr. F. A. Castle, of New York.

Dr. Herman Bendell, of Albany, read a paper on

THE TREATMENT OF AURAL POLYPI BY THE INJECTION OF CARBOLIC ACID,

which he regarded as a more satisfactory method than either operative procedures or the use of caustics and astringents.

Dr. Thomas R. Pooley, of New York, objected to carbolic acid because of the possible occurrence of pyæmia or septicæmia, and the difficulty of limiting the sloughing. He employs avulsion, and said that the hemorrhage attending this operation in his experience had been insignificant.

Dr. Sherman, of Ogdensburg, had used tannic acid in these cases with good results.

Dr. W. F. Mittendorf, of New York, said that the plan of injecting with carbolic acid originated with him about the year 1881, but he limited its use to cases in which the growth presented at the external meatus. The operation, however, had proved so painful that he had abandoned it entirely, and now resorts to the use of the snare.

Dr. O. D. Pomeroy, of New York, said that injection of aural polypi was destructive, painful, and also unnecessary, as there were other and better means for their removal. He uses the forceps and cauterizes the base with nitrate of silver.

Dr. D. B. St. John Roosa, of New York, read a paper entitled

RESULTS OF THE OPERATION FOR CONVERGENT SQUINT.

in which he stated his belief that the operation is permanently successful, if properly understood. There is, however, a division of sentiment on this question. The most favorable time for operation is between five and seven years of age, and vision can be rendered clearer by the use of glasses in a large proportion of cases. There is never any substantial improvement of the vision of the squinting eye by the operation for squint; the improvement in vision is not due to the operation, except in so far as it places the patient in a condition to wear glasses. The operation may successfully remove the deformity in seventy or eighty per cent. of the cases of convergent squint, and this percentage may be raised to ninety-five per cent.

Dr. Harvey Jewett, of Canandaigua, read a paper containing the history of

A CASE OF VESICAL CALCULUS

occurring in a woman sixty-eight years of age, and in which one stone weighing one hundred and eighty-six grains was expelled spontaneously, and another weighing three hundred and ninety-five grains was removed by forceps.

The Society then adjourned to meet at 2.30 P.M.

AFTERNOON SESSION.

The Society was called to order at 2.30 P.M. by the President.

COMMITTEE ON NOMINATION.

The following were reported as the persons elected for the Committee on Nomination by the meetings of the several Senatorial districts:

First District.—Laurence Johnson.
Second District.—H. R. Winter.
Third District.—William H. Bailey.
Fourth District.—Frank G. Buckbee.
Fifth District.—George Seymour.
Sixth District.—William C. Wey.
Seventh District.—F. M. Hamlin.
Eighth District.—John O. Roe.
Member appointed by the President.—S. Oakley Vander Poel, of New York.

DR. GEORGE R. FOWLER, of Brooklyn, read a paper entitled

COMPARISON OF THE MODERN METHODS OF TREATING UNUNITED FRACTURES,

included under two heads, non-operative and operative methods.

Of the non-operative there were fixed dressings, friction of the fractured ends, subcutaneous puncture, aided perhaps by injection of irritating fluids. All these are open to the common objection that they are not applicable in the vicinity of joints.

The percussion method of Thomas, of Liverpool, he had resorted to with good results in several cases. The method consists in placing a folded towel over the parts, and then hammer them until an active degree of inflammation is established.

Mention was then made of the use of ivory pegs, with results far from satisfactory, and the use of steel screws, a modification of Dieffenbach's operation.

INVITED GUESTS.

DR. W. S. ELY, of Rochester, reported the following: C. C. Rice, of New York; W. G. Tucker, of Albany; E. B. Bronson, of New York; James Craig, of Albany; W. S. Daly, of Ogdensburg; D. McFalls, of Gouverneur; C. M. Leffler, of Gloversville; S. E. S. H. Nott, of Erie County; O. D. Ball, of Albany; A. S. Newcomb and O. D. Pomeroy, of New York.

Dr. Ely also introduced as

DELEGATES FROM ABROAD,

T. J. Allen, of Montreal; William Gardner and James Stewart, of McGill University; and T. J. Alloway, of Montreal.

A paper by Dr. N. A. Powell, of Ottawa, Canada, on "Vesical Calculi in Children," was read by title and referred to the Committee on Publication.

THE COMMITTEE ON PRIZE ESSAYS

reported that only one essay had been submitted, and that in their opinion it was unworthy of the prize.

DR. C. H. PORTER, of Albany, offered the following

AMENDMENT TO THE BY-LAWS AFFECTING PERMANENT MEMBERSHIP.

To Article 1, Section 5, shall be added: "All persons now eligible, and who have not been nominated as permanent members, upon notifying the Secretary of this Society of their desire to become such, will become permanent members on complying with the By-Laws." Adopted.

DR. A. HADDEN, of New York, then read a paper on

RHEUMATIC AFFECTIONS OF THE JOINTS,

in which he spoke especially of the morbid condition in different classes of cases, their etiology and treatment.

DR. THOMAS R. POOLEY, of New York, read a paper which contained the history of a case of

SARCOMA OF THE ORBIT AND ANTRUM.

The patient was operated upon, the neoplasm removed, and he was discharged from his hospital at the end of about one week with the operative wounds nearly healed.

The paper was discussed by the President and Dr. E. Hutchinson, of Utica.

INFANT FEEDING.

DR. E. F. BRUSH, of Mt. Vernon, read a paper on the above subject, in which he pointed out some simple methods of feeding an infant when it has been deprived of the breast. He urged the claims of simple foods in preference to the so-called "patent foods," the composition of which was often unknown; he examined the composition of the once famous "Liebig's Food for Infants," and another popular food, and indicated the dangerous amount of alkali contained in them, citing Dr. Jacobi's warning that "we are not very careful in doses of alkalies in general," and Dr. Stillé's remark that alkaline treatment "lessens the amount of fibrin in the blood." He showed by the figures of an advocate of peptonized food, that the results of such feeding were not satisfactory.

Proceeding then to the immediate subject of his paper, he stated that one of the greatest elements of failure in the artificial feeding of infants was the desire to give one sort of food alone, under all circumstances, and hence the blind prescription of patent foods. He advised, on the contrary, the preparation of foods from simple articles within reach to meet the requirements of each case as they arise. When with food thus prepared there is a failure, the physician has at least the knowledge as to what the failure arises from.

Commencing then with the child at birth, Dr. Brush gave his formula for the best substitute for colostrum, and his further treatment if the cathartic effect was either excessive or defective. He then discussed what was the best staple food. He answered unhesitatingly, "cow's milk," which, however, was subject to many conditions that render it unfit, unless due care is exercised. In 1879, Dr. Brush had pointed out the difference between the milk of the ruminant and non-ruminant animals, as regards particularly the quantity and quality of the casein contained in them, and the difficulty experienced by the human young in digesting a milk intended for bovine young. When an infant vomits a hard curd, the indications are that the milk must either be prevented from coagulating in the stomach, or coagulated and broken up before entering the stomach. He showed that it was inadvisable to use an alkali to overcome the tendency to souring in the stomach, and therefore recommended the latter treatment of coagulating and breaking up the milk before feeding it. In other cases he recommended the addition of lime-water as the safest agent, as it did not, like other alkalies, keep the stomach in an alkaline condition, nor cause an acid condition of the intestines. In cases of diarrhœa in children fed on milk, the indications were to stop the milk immediately. The milk was usually the cause of the trouble, and the milk was rendered unfit by the physical condition of the cow, such as œstrum pregnancy, poisonous herbs, cruel treatment, and the like, to all of which states many cases of diarrhœa in infants could be traced.

In these cases of diarrhœa he recommended oatmeal water, which his analysis convinces him was somewhat similar to milk in composition. He insisted on the necessity of the medical attendant himself preparing and teaching the preparation of these simple foods. In all cases, however, the child should be put back on its ordinary milk diet as soon as possible.

As regards the kind of cow best adapted to supply milk, Dr. Brush prefers the common grade cow to the Jersey or fancy breeds; the latter are of a tuberculous tendency; the fat in the milk is not sufficiently emulsified, and they are of higher nervous temperament, while the

common cow ordinarily is gentle and a good feeder. She should always be stall-fed, as in hay even the poisonous weeds lose the evil properties by the desiccation of the volatile poisonous principle. When milk has been bought, that of one cow should always be avoided. In cases of constipation raw-malt water, carefully prepared as a diluent of the milk, is efficacious. In acute dysentery raw-beef solution is to be recommended. In all cases of dysentery the food should be warm.

The paper was discussed by DR. A. JACOBI, of New York, who spoke especially of the following formula, devised by Dr. Rudisch, of New York, for rendering the curd of cow's milk flaky and soft:

Dilute muriatic acid (officinal), twenty-five or thirty drops; water, one pint; and cow's milk, one quart. Mix and boil.

Dr. A. Jacobi, of New York, then read a paper on

PAPAYOTINE

in the treatment of diphtheria. He had used it in the following mixture: *one* part of the remedy, *four* parts of water, and *four* parts of glycerine; applied locally, and with a good degree of success in softening and dissolving the membrane. Illustrative cases were reported. It can also be used one part to two of water and two of glycerine, and applied quite constantly.

DR. ALFRED L. LOOMIS, of New York, then read a paper on

GENERAL ARTERO-CAPILLARY FIBROSIS,

in which he discussed its relation to cardiac and renal disease. He regards it as a general condition which involves the vascular system, and manifests itself in a variety of morbid changes in different parts of the body. The effect of the fibroid degeneration is to diminish the calibre of the arterioles. It is to be recognized by the character of the pulse, it giving evidence of increased arterial tension. The relation which left cardiac hypertrophy has to the small kidney was discussed at length, and the relation which both morbid conditions sustain to a general fibroid condition of the arteries and arterioles was demonstrated.

DR. H. R. HOPKINS, of Buffalo, read a paper on

ULCERATIVE ENDOCARDITIS,

in which he discussed the question of its primary occurrence, its symptomatology, and its etiology. Whether primary or not is questionable. In the vast majority of cases it is secondary, especially to scarlet fever, pneumonia, and pyæmia. He thought one should be guarded with reference to expressing an opinion concerning the etiological relation existing between the disease and micro-organisms, although the relation of cause and effect was maintained by many observers.

The paper was discussed by Drs. Jacobi and Loomis, of New York; Ely, of Rochester; and Hopkins, of Buffalo.

DR. WILLIS E. FORD, of Utica, read a paper on

THE EARLY MANAGEMENT OF CASES OF MENTAL DEPRESSION,

in which he presented two classes of cases: first, intellectual; and, second, emotional.

The paper was discussed by Dr. Roosa.

DR. J. M. BIGELOW, of Albany, read a paper entitled

HINTS ON THE TREATMENT OF DIPHTHERIA,

in which he referred to the successful use of pilocarpine, the topical use of carbolic acid, followed by the use of a solution of lactic acid, together with the internal use of the muriated tincture of iron.

INVITED GUESTS.

The following were announced: Drs. Maurice J. Levi, Daniel V. O'Leary, D. H. Cook, David Fleischman, and F. J. Classen, of Albany; James Ferguson, D. H. Goodwillie, and W. C. Phillips, of New York; James A. Sinclair, of Canajoharie; J. L. Heffron, of Syracuse; Hiram Wiggin, of Elbridge; and Dr. Layman, of Schoharie.

The society then adjourned to meet at 8 P.M.

EVENING SESSION.

The Society was called to order by the President.

In the absence of LAWSON TAIT, F.R.C.S., of Birmingham, Eng., Dr. S. B. Ward, of Albany, read his paper (see p. 141) on

METHODS OF DIAGNOSIS

DR. W. GILL WYLIE, of New York, then read a paper on

DISEASES OF THE FALLOPIAN TUBES,

reported cases, and exhibited characteristic specimens.

"Since May, 1883, I have operated on thirty-seven women for the removal of diseased uterine appendages, not including ovariotomies and other operations for large tumors of the ovaries. Twenty-five of these have been reported (fourteen January 15, 1885, and eleven June 19, 1885) in THE MEDICAL RECORD of February 7, 1885, and August 29, 1885.

"Of the thirty-seven, thirty-three recovered and four died. Two of the latter were complicated by pelvic abscesses at the ends of the tubes and around the ovaries; a third was complicated by hæmatocele attached to the left ovary; and the fourth, on account of extensive adhesions and degenerated state of the ovaries, required considerable exposure of the peritoneal cavity in operating. Thirty-four of the thirty-seven cases had marked peritoneal adhesions. More than one-third were well-marked cases of pyo-salpinx, and nine were either complicated by abscesses or the tissues about the tubes and ovaries were infiltrated with pus.

"Twenty-three were hospital cases, and were chiefly selected from three large dispensary clinics, where every year hundreds of women suffering from local peritonitis, the result of diseased tubes or septic poison reaching the peritoneal cavity through the Fallopian tubes, present themselves for treatment. If one would follow the text-books on gynecology, most of these thirty-seven cases would have been classed as chronic cellulitis; four or five would have been called cases of pelvic abscess, and quite a number would have been called ovaritis.

"With the exception of three or four cases operated upon for cystic degeneration, which was supposed to be the cause of hystero-epilepsy, almost all were at times bedridden by repeated attacks of local peritonitis. It is yet too soon to speak positively about the results of the operations in all classes of cases, but I can say without hesitation that, in those cases where the subjective symptoms were chiefly actual local pain and physical inability to go about without causing persistent pain—and almost all of the cases of pyo-salpinx would come under this head—the results were good and satisfactory both to the patient and doctor. In many cases the relief from pain was gratefully acknowledged at once.

"In those cases where the subjective symptoms were chiefly reflex, and of a nervous order, the immediate results were by no means always satisfactory, although many completely recovered after seemingly being unimproved for several months. I have repeatedly refused to operate on this class of cases, unless I could plainly make out by bimanual examination that the ovaries were enlarged by cystic degeneration. I have yet to see a well-marked case of hystero-epilepsy or decided hysteria operated on where the ovaries were not found in a state of cystic degeneration, or very much atrophied. And these are nearly always associated with an imperfectly developed or atrophied uterus.

"The class of cases which will not only test the educated sense of touch and practical ability to diagnose and skill to do a successful operation, but will also give many opportunities to actually save life, are to be found among those cases complicated by small pelvic abscesses. The

ability to diagnosticate will be shown by detecting them before they have either penetrated into the connective tissues below the peritoneum and formed large pelvic abscesses, or, what is of still greater importance, before they have broken through the layer of lymph thrown out by the peritoneum to shut the diseased organ and tissue from the peritoneal cavity, and caused general peritonitis and death. The skill in operating will be shown by either removing intact the diseased organ and sac of the abscess, or by removing most of the sac and washing and draining the peritoneal cavity to avoid septic poisoning and death."

The surgical pathology was given as recorded in THE MEDICAL RECORD, January 24, 1885.

These papers were discussed by Dr. Paul F. Mundé, of New York; the President, Dr. Hailes, of Albany; and Dr. W. B. Chase, of Brooklyn.

The discussion was closed by Dr. Wylie.

DR. DANIEL LEWIS, of New York, presented the subject of

THE PHYSICIAN'S MUTUAL AID ASSOCIATION,

which can now receive members from all the counties of the State.

DR. P. A. FURBECK, of Gloversville, then read a paper on

THE ESTABLISHMENT OF A STATE BOARD OF MEDICAL EXAMINERS.

The writer favored the creation of such a board, and the bill substantially which was approved by the Society at its last annual meeting; one of the chief exceptions being with reference to where the examinations should be held, believing it best that they should be conducted at the colleges.

The paper was referred to the Committee on Legislation for consideration.

A paper on cholera, by J. A. S. GRANT (Bey), of Egypt, was read by title and referred to the Committee on Publication.

The Society then adjourned to meet on Wednesday at 9 A.M.

SECOND DAY—WEDNESDAY, FEBRUARY 3d—MORNING SESSION.

The Society was called to order at nine o'clock by the President, and prayer was offered by REV. R. W. KENYON.

REPORT OF THE COMMITTEE ON BY-LAWS.

DR. W. C. WEY, of Elmira, Chairman of the Committee, reported that, concerning the communication from the Cayuga County Medical Society, the act passed by the Legislature relating to permanent membership, already reported to the Society, will relieve that Society from further vexation and grief; that they withhold their sanction from the amendments to by-laws, adopted by the Counties of New York and Yates, making provision for the dropping of members for non-payment of dues.

The report of the committee was, after limited discussion, adopted.

DR. R. H. DERBY, of New York, presented the subject of

COMMUNICABLE EYE DISEASES,

and the bill recommended by the New York Academy of Medicine. The communication was received and the bill endorsed.

DR. C. H. PORTER, of Albany, Treasurer, presented

THE TREASURER'S REPORT,

which was referred to an Auditing Committee consisting of Drs. J. E. Potter, of Delphi, Onondaga County; W. H. Craig, of Albany; and M. H. Turner, of Essex County. Dr. Porter also reported on the Merrit H. Cash Fund, which was excepted.

DR. H. G. PIFFARD, of New York, offered a resolution appropriating $300 for the use of the Committee on Legislation. It gave rise to discussion, and was lost.

DR. E. L. PARTRIDGE, of New York, from the Committee of Arrangements, reported the following

INVITED GUESTS:

George B. Dunham, of Plattsburg; S. J. Banker, of Fort Edward; C. L. Fletcher, of Dutchess County; J. H. Smith, of Dannemora; F. H. Bosworth, of New York; A. Ten Eyck, of Blooming Grove; L. Howe, of Buffalo; J. D. Featherstonhaugh, of Cohoes; F. H. Potter, of Buffalo; E. L. Keyes, W. E. Forest, of New York; and D. B. Simmons, of Poughkeepsie.

DR. A. R. SIMMONS, of Utica, read a paper on

ACUTE NEPHRITIS,

especially as following diphtheria, in which he discussed the cause and the treatment, making special reference to the germ theory.

DR. WESLEY M. CARPENTER, of New York, read a paper entitled

A CLINICAL NOTE ON ALBUMINURIA AND GLYCOSURIA,

in which he directed attention to a few clinical features present in two cases. The *first* was one which he saw in consultation with Dr. Charles H. Avery, of New York; of a woman fifty-five years of age, the mother of several children, who had been in good health up to one year previously, when she noticed that on some days she passed more than the usual quantity of urine. No other symptoms were developed until it was seen that her face was swollen under the eyes; slight swelling of the feet soon followed, with *difficulty of breathing*, and her attending physician then detected the physical signs of œdema of the lungs. The symptom which led to sending for the family physician was the rather sudden development of the difficulty of breathing. Dr. Avery examined the urine at once, and found that it contained a sufficient quantity of albumen to solidify nearly its entire bulk; the specific gravity was 1.010, and the quantity was diminished. Microscopical examination, made by Dr. Carpenter, revealed casts of nearly all varieties except blood, and in very great abundance.

A full dose of elaterium was administered, which operated freely; this was followed by the use of nitroglycerin—one drop of a one per cent. solution three times a day. The urine was examined chemically twice daily, and microscopically once a day; and at the end of two days only a trace of albumen could be detected, and it contained only a few casts. At the end of a week both albumen and casts had entirely disappeared; and at the end of two months the nitroglycerin was discontinued entirely. Examination of the urine was repeated at intervals from this time on, but with negative results.

At the end of three months it was noted that the specific gravity was above 1.020, and that the quantity had increased considerably. It was then tested with Fehling's solution, and revealed distinct evidence that it contained sugar. From that date forward, nearly two years, the patient had exhibited some of the ordinary phenomena of diabetes mellitus.

The chief points of interest in this clinical history were: first, the well-marked symptoms of kidney disease; second, their rapid disappearance under the influence of nitroglycerin; and, third, the appearance of glycosuria, which has thus far remained permanent.

Albuminuria occurs not infrequently with glycosuria, but in the case reported it seemed evident that changes existed in the kidneys far beyond a simple swollen and granular condition (Senator) of the epithelia of the uriniferous tubules.

The fact, however, that the albuminuria disappeared entirely, and that the urine has not since contained casts, favored the view that the glycosuria preceded the albuminuria.

CASE II.—In June, 1885, Dr. —— placed in his

hands an accurately recorded clinical history of his own case for one month, in which it was found that the urine contained sugar, but in general the patient had not suffered any special inconvenience on account of its presence. The interesting feature of the case pertained to the diet. The patient, immediately on discovering sugar in his urine, restricted himself to the usual diabetic diet, and the result was the prompt disappearance of sugar from the urine according to Fehling's test. The first compromise consisted in eating gluten bread, when he found that within two hours after he had taken it sugar was present in his urine. This experience seemed to agree with that obtained by a large percentage of those who had bought diabetic bread at some of the more popular establishments.

From this point the patient began to experiment with reference to his diet. He soon discovered that watermelons could be taken without being followed by sugar in the urine, and he therefore ate them very freely and with notable benefit. He also learned that he could eat raw peaches without limitation and with impunity. The doctor also discovered that the ingestion of any of the cereals, except buckwheat, was quickly followed by sugar in the urine. He has been able, during the last six months, to eat buckwheat-cakes without detriment, but recently he has noticed that their ingestion has been followed by a slight trace of sugar in the urine.

The most noteworthy fact concerning his diet is that potatoes do not produce sugar in his urine. This article has been particularly prohibited in diabetic diet-lists. Doubtless in most cases their use is detrimental.

Such cases verify the statement made by Pepper, that the governing principle is that starch and sugar should be excluded from the diet of diabetics; but, at the same time, no inflexible rule applying to every case can be made.

This patient has used the arsenite of bromine with the restricted diet, and his general condition remains good.

In connection with the examination of the urine by means of Fehling's solution, the writer of the paper directed special attention to the additional step in its application, proposed by Seegen, of Vienna, who described a method by which he claimed to be able to detect sugar in the urine when it could not be detected by the tests ordinarily made. The method has been revived by Dr. McBride, of New York, and is as follows: Take, for example, a specimen of urine from which sugar cannot be precipitated by Fehling's solution, and filter it through blood charcoal (not ordinary animal charcoal); then wash the filter with distilled water, and test the third and fourth washings with Fehling's solution, and if sugar is present it will be detected readily.

The explanation is that the urine contains certain substances which are capable of holding sugar in solution, that these substances are detained in the filter, and that by repeatedly washing the filter with water they are made to release their control over the sugar and allow it to be precipitated by the copper test.

A paper on "Tubercular Ulceration of the Vocal Cords," by DR. J. P. CREVELING, of Auburn, was read by title.

DR. W. C. WEY, of Elmira, read a paper on

MEDICAL TESTIMONY AND THE HYPOTHETICAL QUESTION,

in which he clearly set forth the difficulties surrounding the task of securing competent medical evidence, and the embarrassments surrounding the hypothetical question. The expert medical testimony should be entirely under the supervision of the court.

The paper was discussed by Dr. Sherman, of Ogdensburg.

DR. W. B. CHASE, of Brooklyn, read a paper on

ANTISEPTICS IN MIDWIFERY,

the first portion of which referred to the germ theory, its general acceptance, the extreme views which have been held by foreign and American writers on the subject, and the second part considered the practical application of the accepted antiseptic principles before confinement, during and after labor.

A paper on "Ozena," by DR. J. O. ROE, of Rochester, was read by title.

DR. LUCIEN HOWE, of Buffalo, made a communication on

TRANSPLANTATION OF THE EYE-BALL,

and exhibited the rabbit upon whom he had performed the operation three days ago. The cornea was comparatively clear, and the iris was visible, and there was only slight conjunctival inflammation. But the cornea always sloughs, and the globe also, but the operation shows that a slight amount of circulation is established in the globe.

The paper was discussed by Drs. H. D. Noyes and W. F. Mittendorf, of New York, and Dr. Baker, of Niagara.

DR. E. L. KEYES, of New York, read a paper on

THE RADICAL TREATMENT OF HYDROCELE AND VARICOCELE

by means of subcutaneous ligation of the veins in varicocele with carbolized catgut, which in his hands has uniformly been successful. Etherization is not admissible, because the patient must stand up, and he has used both straight and curved needles.

For hydrocele he uses pure carbolic acid by injection, suggested by Dr. Levis, of Philadelphia, with a glass syringe having an ordinary hypodermic point; first withdrawing the fluid, and then throwing in pure carbolic acid deliquesced with a few drops of glycerine—one drachm.

DR. WEIR, of New York, spoke of the caution necessary in the use of more than one drachm of the acid for a single injection in hydrocele. He had used the subcutaneous ligation for varicocele in twenty-two cases, with six unsatisfactory results. For small varicocele this method is the best; but for the large he truncates the scrotum, and ties the veins in one or two places.

DR. GERSTER, of New York, added his testimony to Dr. Weir's in the treatment of small varicocele, but for the large he favored complete exposure of the parts to be operated upon under antiseptic precautions.

DR. PEASE, of Syracuse, saw no reason why Dr. Keyes' method was not as applicable to large as to small varicocele.

The discussion was closed by Dr. Keyes.

DR. WHITBECK, of Rochester, reported a case of

PELVIC ABSCESS

which illustrated the importance of drainage.

DR. V. P. GIBNEY, of New York, read a paper on

THE MANAGEMENT OF CLUB-FOOT,

in which he considered the abuse of tenotomy, the advantages of early treatment, how the mother may intelligently co-operate with the medical attendant, the delusion of "rapid cure," the value of plaster-of-Paris as an adjuvant, and also the extensive surgical operations sometimes adopted. The paper was discussed by Drs. M. Josiah Roberts, of New York, and A. M. Phelps, of Chateaugay.

The Society then adjourned to meet at 2.30 P.M.

AFTERNOON SESSION.

The Society was called to order at 2.30 P.M. by DR. W. C. WEY, of Elmira.

The Committee reported the following

INVITED GUESTS.

Drs. E. A. Bartlett, John Thompson, U. B. La Moure, and H. S. Case, of Albany; A. A. Christie Perry, of Steuben County; L. D. Bulkley, of New York; L. E.

Blair, W. B. Sabine, Henry Lilienthal, Theodore P. Bailey; H. H. Fish, of Mecklenberg, Schuyler County.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

DR. F. R. STURGIS, of New York, read the report, which recommended, concerning increase in permanent membership, that hereafter, and immediately prior to the reading of papers at the sessions of the annual meeting, the names of those who are eligible to permanent membership by reason of having served three years as delegates, and who have signified their desire to become members, shall be read to the Society, and if objection is made to any applicant the case shall be referred for final adjudication to the Committee on Ethics; that no change in place of holding the annual meeting should be made; that it had no recommendation concerning honorary degree in medicine to be conferred by the Regents; that earnest honest efforts be made to secure the passage of the bill creating a State Board of Medical Examiners.

The report was adopted.

The report of the Committee on a communication from the New Jersey Medical Society, DR. S. O. VANDER POEL, of New York, Chairman, was read and referred. It related to preliminary education of medical students.

The Auditing Committee reported that the Treasurer's accounts and vouchers had been found correct.

DR. R. F. WEIR, of New York, then read a paper on

ANTISEPTIC IRRIGATION OF JOINTS FOR SEROUS SYNOVITIS,

and gave cases illustrating the value of this method.

The paper was discussed by Drs. Gerster and Gibney, of New York, and Dr. Hailes, of Albany.

TERM AND NUMBER OF DELEGATES.

DR. C. H. PORTER, of Albany, introduced a resolution which provided that the President should appoint a committee of three to report at the next meeting what, if any, changes should be made with reference to the number and length of term of delegates from county societies and other organizations.

DR. WM. HAILES, JR., of Albany, read a paper entitled

BACTERIA: IDENTIFICATION AND CLASSIFICATION OF SPECIES,

as especially observed in his analyses of water.

DR. W. F. MITTENDORF, of New York, reported a case in which he removed with forceps

A PIECE OF IRON FROM THE EYE,

after making an opening opposite to the point of entrance.

DR. ROOSA, of New York, thought that with the brilliant result of this case we should reaffirm that the danger of sympathetic inflammation is not removed when the foreign body is taken away.

DR. H. D. NOYES, of New York, gave his experience briefly in a number of these cases, in which he endeavored to remove the foreign body by means of the magnet. The eyeball can be saved, in some cases vision spared, and not in all cases do conditions follow which render enucleation necessary.

DR. MAURICE PERKINS, of Schenectady, with reference to

STATE LOCAL HEALTH BOARDS,

believed that the civil service principles should be applied.

INVITED GUESTS.

Drs. F. N. Otis, of New York; Frank Merrington, John McAllister, James Mitchell, and William Shutter, of Albany.

DR. L. D. BULKLEY, of New York, read a paper on

NON-VENEREAL SYPHILIS,

referring to the cases in which the disease has been communicated by methods other than sexual intercourse.

DR. F. N. OTIS, of New York, read a paper on

THE LIMITATION OF THE CONTAGIOUS PERIOD OF SYPHILIS IN RELATION TO MARRIAGE, ETC.

According to the views entertained by the author of the paper there is no such thing, strictly speaking, as hereditary transmission of syphilis; that there is no well-authenticated evidence of communication of syphilis after the secondary stage has been completely passed; that after the absence of all symptoms referable to syphilis for one year, marriage can be entered into with safety; that communication of syphilis after the third year of its existence is rare; that tertiary syphilis is due to obstructive changes affecting the lymph-channels caused by the disease in its secondary stage; that spontaneous recovery from tertiary syphilis may occur, etc.

DR. D. H. GOODWILLIE, of New York, read a paper on

THE TREATMENT OF TERTIARY SYPHILIS OF THE NOSE, MOUTH, AND THROAT,

making special reference to removal of necrosed bone by means of the revolving knives. A large number of wax models were exhibited illustrating cases successfully treated.

These papers were discussed by Drs. Sturgis, P. A. Morrow, and Jacobi, of New York, who criticised most of the points brought forward by Dr. Otis, who closed the discussion and further defended his position on this subject.

DR. BULKLEY, in closing the discussion on his paper, also criticised Dr. Otis' views.

DR. AGNEW, of New York, gave a synopsis of his paper

ON HYGIENE OF THE EAR,

in which he had collected 2,844 cases of consecutive diseases of the ear, and of which 2,183 were of the middle ear, 6 of the auricle, 362 of the auditory canal, 15 of the mastoid alone, 244 of the labyrinth, and 34 unclassified. The important etiological factor in the middle-ear cases was naso-pharyngeal diseases.

THE PRESIDENT appointed as special committee on Dr. Porter's resolution: Dr. Charles H. Porter, of Albany, Chairman, Dr. W. C. Wey, of Elmira, and Dr. D. B. St. John Roosa, of New York.

The Society then adjourned to meet at 9.30 A.M. on Thursday.

EVENING SESSION.

The Society convened in the Assembly Chamber and listened to the annual address of the President, for which he was tendered a vote of thanks. Subsequent to the address a banquet was given at the Delavan House which was largely attended.

THIRD DAY—THURSDAY, FEBRUARY 4TH.

The Society was called to order at 9.30 A.M. by THE PRESIDENT.

Prayer was offered by REV. FATHER EDWARD A. TERRY. Dr. H. B. Conrad, of New York, was present as an invited guest.

DR. F. C. CURTIS, of Albany, presented the report of the Committee on Hygiene, and asked the individual support of members throughout the State in the work formulated by Dr. Stoddard, of Rochester, Chairman. The report of the Committee on Experimental Medicine was accepted.

Committee on Publication presented its report, which was adopted.

THE SECRETARY acknowledged the receipt of a communication from the State Department at Washington concerning cholera.

The resignations of Drs. John Ordronaux and E. R. Squibb were accepted with regret.

Dr. D. B. Simmons, of Poughkeepsie, read a paper on

LEPROSY IN JAPAN,

in which he spoke of its distribution, prevention, clinical history, and treatment. He rejects the germ theory of its origin.

The paper was discussed by Dr. A. N. Bell, of Brooklyn.

The following papers were read by title and referred: "Abscess of the Liver," by Dr. B. C. Senton, of Whitehall; "Pin Operation for Deviated Septum," by Dr. W. C. Phillips, of New York; "Early Ovariotomy," by Dr. T. H. Squire, of Elmira.

Dr. W. H. Bailey, of Albany, read a practical and valuable paper on

HEMORRHOIDS IN PREGNANCY.

Discussed by Dr. W. S. Ely, of Rochester, who spoke of the benefit derived from upward elastic pressure by rubber bandage.

Dr. W. H. Thomson, of New York, read an elaborate paper on

PREVENTION OF HEMIPLEGIA,

and discussed the predisposing causes of arterial degeneration, heredity, influence of diet, and effect of climate.

Dr. F. C. Curtis, of Albany, read an interesting paper on

RINGWORM OF THE SCALP IN ASYLUMS AND PRIVATE PRACTICE,

and recommended chrysophanic acid in its treatment.

The paper was discussed by Dr. F. R. Sturgis, of New York

Drs. Charles Cary, of Buffalo, and W. M. McLaury, of New York, read papers in favor of cremation, which were discussed by Dr. D. B. Simmons.

A paper on "Excision of the Knee-joint," by Dr. A. M. Phelps, of Chateaugay, was read by title.

REPORT OF THE COMMITTEE ON NOMINATION,

Dr. S. Oakley Vander Poel, chairman; Lawrence Johnson, secretary.

President—William S. Ely, of Rochester.

Vice-President—Solomon Van Etten, of Port Jervis.

Secretary—William Manlius Smith, of Syracuse.

Treasurer—Charles H. Porter, of Albany.

Censors—Southern District: John S. Warren, of New York; Walter B. Chase, of Kings; E. T. Brush, of Westchester. Eastern District: Joseph Lewi, of Albany; Thompson Burton, of Montgomery; Leroy McLean, of Rensselaer. Middle District: Lansing Griffin, of Broome; Robert Frazier, of Oneida; I. N. Goff, of Madison. Western District: Theodore Dimon, of Cayuga; M. S. Gittinger, of Niagara; David Little, of Monroe. Medical College, Syracuse University: John Gerin, of Cayuga.

Committee of Arrangements—S. B. Ward, of Albany; E. L. Partridge, of New York; W. E. Ford, of Utica.

Committee on By-laws—W. C. Wey, of Elmira; H. G. Piffard, of New York; William Manlius Smith, of Syracuse.

Committee on Hygiene—E. V. Stoddard, of Monroe; F. C. Curtis, of Albany; A. N. Bell, of Kings; R. Loughran, of Ulster; J. P. Creveling, of Cayuga; E. Hutchinson, of Oneida; W. H. Bailey, of Albany.

Committee on Legislation—F. R. S. Drake, Laurence Johnson, and D. B. St. John Roosa, of New York.

Committee on Medical Ethics—A. Jacobi, of New York; Arthur Matthewson, of Kings; J. W. Whitbeck, of Monroe.

Committee on Prize Essays—George F. Shrady, Frank P. Foster, and Wesley M. Carpenter, of New York.

Committee on Publication—William Manlius Smith, Charles H. Porter, Alfred Merce, J. O. Roe.

Honorary Members—Lawson Tait, of Birmingham, England; E. N. Brush and J. G. Richardson, of Philadelphia; T. Hansen, of Copenhagen.

Delegates.—Canadian Medical Association: B. F. Sherman, of St. Lawrence; Albert Vander Veer, of Albany; W. W. Potter, of Erie; A. M. Phelps, of Franklin. Connecticut Medical Society: F. A. Castle, of New York; E. M. Hermance, of West Chester; C. E. Willard, of Greene County. New Jersey Medical Society: P. R. Furbeck, of Fulton; J. P. Creveling, of Cayuga; J. C. Hutchison, of Rensselaer. Ontario Medical Association: L. Howe, of Erie; F. Henkel, of Erie. Pennsylvania Medical Society: C. R. Agnew, of New York; Solomon Van Etten, of Orange. Vermont Medical Society: F. S. Low, of Oswego; W. O. Moore, of New York; Thompson Burton, of Montgomery. Massachusetts State Medical Society: E. H. Parker, of Dutchess; H. G. P. Spencer, of Jefferson.

Eligible to Honorary Membership.—J. A. S. Grant Bey, of Cairo, Egypt; Duane B. Simmons, of Poughkeepsie; Professor Fenwick, of Montreal, Canada.

Delegate to German Surgical Congress.—A. M. Phelps, of Franklin County, also delegate to British Medical Association.

Dr. S. B. Ward, of Albany, introduced resolutions of thanks to the President and Custodians of the City Hall, with substantial remembrance of the janitor, and to the railroads for reduction in fares, which were unanimously adopted.

INVITED GUESTS.

Drs. C. E. Annabel, of Cameron; C. E. Bruce, of New York; P. J. Keegan, Lewis Balch, and A. B. Huested, of Albany; S. S. Wallian, and F. D. Fisher, of New York.

Dr. J. P. Boyd, of Albany, read a paper on "Hemorrhage after Removal of Cervix Uteri with Galvano-cautery Wire."

Dr. F. S. Crego, of Buffalo, read a paper on "Migraine."

Dr. F. W. Hinkel, of Buffalo, read a paper on "Tubercular Ulceration of the Pharynx."

Dr. F. Petersen, of Poughkeepsie, read a paper on "A General System of Districting the State Asylums for the Accommodation of the Acute and Chronic Insane."

Dr. F. N. Hamlin, of Auburn, read a paper on "The Emission of Semen as a Means of Diagnosis of Death by Hanging."

Dr. A. B. Huested, of Albany, read a paper on "The Benefits arising from Laws Regulating Pharmacy."

Dr. S. S. Wallian, of New York, read a paper on "The Bacillus Ethicus Medicinalis."

The following papers were read by title: "Well-water in its Relation to Microspores," by Dr. F. E. Martendale; "The Free Dispensary System," by Dr. J. W. Howe, of New York; "The Treatment of Epilepsy," by Dr. C. L. Dana, of New York; "Ozæna," by Dr. J. O. Roe, Rochester.

The Society then adjourned.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, January 11, 1886.

Stephen Smith, M.D., Chairman.

DIAGNOSIS AND TREATMENT OF INTRA-PERITONEAL WOUNDS OF THE URINARY BLADDER—THE DANGERS OF ANÆSTHETICS IN CHRONIC BRIGHT'S DISEASE.

The Chairman introduced the first subject of discussion by stating that it was closely related to the subject before the Section at its last meeting, viz., "Laparotomy in Penetrating Wounds of the Abdomen." Although intra-peritoneal wounds of the urinary bladder are not very uncommon, there being somewhat over two hundred cases on record, there is no settled method of treatment. It was true, he stated, that all methods of treat-

ment had failed, as there now seemed to be but one well authenticated case of recovery on record, and on this account it was all the more important to determine upon a method of procedure which would rescue this accident from the category of fatal injuries. Dr. Stein, who has investigated the subject, and written a valuable memoir, will commence the discussion.

DR. ALEXANDER W. STEIN continued the discussion (see p. 146).

DR. SENECA D. POWELL said he had seen one or two cases where the bladder was injured. He was present at the time when the man's bladder was ruptured in Bellevue Hospital, in the case to which Dr. Stein had referred. In that instance the organ was very much distended. A consultation was called of the house staff, and it was determined to perform external urethrotomy without a guide, though the opinion of some was that it would be better to tap the bladder through the rectum before administering the anæsthetic. The patient took ether very badly, and during his struggles it was noticed that the abdomen assumed a flat appearance, and that the pulse quickly became accelerated. Nothing was done beyond the operation of external urethrotomy. The bladder was empty, and the man died within a few hours. The post-mortem showed that the rupture took place in the upper and posteribr portion of the viscus.

In the other two cases which he had seen the bladder was injured during the operation of laparotomy. In one case, which occurred only a few months ago, the bladder was drawn up by old adhesions. The other case occurred one or two years ago. The incision in both instances was about one inch long, and the opening in the bladder was closed by carbolized silk sutures, the stitches being passed through the entire coats of the bladder and secured in the edges of the abdominal incision. The laparotomy was discontinued. The patient recovered. Laparotomy was performed successfully at a later period by making the incision to one side of the median line and thus avoiding the bladder. He saw no reason, although he had had no experience, why we should hesitate, with our present knowledge of abdominal surgery, to open the abdomen and wash it out and sew up the laceration in the bladder. He thought if this operation could have been performed on the patient in Bellevue Hospital, that he would have had a fair chance of recovery, because it would have been done so soon after the occurrence of the injury.

In neither of the cases of laparotomy was urine admitted into the abdominal cavity.

DR. A. JACOBI said that he had had no experience whatever on the subject, but there were some remarks in the paper which might bear a little discussion. One was the fact that a great many ruptures had taken place, not in a normal or in an atrophied bladder, but in hypertrophied bladders. Now, hypertrophy means in every viscus not exactly an increase of the normal tissue, which certainly would resist rupture better than the normal bladder, but it means hypertrophy produced by abnormal tissue. Thus we see hypertrophy in the bladder, after stricture, by over-exercise of the organ and secondary cystitis. We see it also in other cases of more or less primary or secondary cystitis. So it is true that the wall of the bladder, when it is opened, is very thick, the thickness being due, however, not to normal tissue, but to tissue changed by inflammatory process, and muscular tissue always in a condition of degeneration. Thus it is, as Dr. Stein has mentioned, we see rupture taking place in such hypertrophy of the bladder. In the same way rupture of the heart will take place more frequently in so-called hypertrophy, the result of old general myocarditis. There is thickening of the wall of the heart, but the thickness is produced by inflammation and granular degeneration of the muscular tissue, and there it is where the heart will rupture.

It was a question with him whether anybody would be found who would execute what Dr. Stein had proposed as possible, namely, making an incision into the peritoneum and reaching the bladder from that side. It was true that drainage could be established, but there would be no way of washing the urine out thoroughly and finally healing up the wound. As far as the latter was concerned, he would like to ask to what extent sutures in the bladder were well tolerated. Inasmuch as the experience of olden times, that of the period preceding modern antisepsis, might be regarded as of little importance, he hesitated to report a case; but otherwise he would like to lay some stress upon an operation at which he was present about twenty years ago, where the late Dr. Krackowizer performed pubo-cystotomy in such a way that the peritoneum above the symphysis pubis was not touched. The bladder was entered and the calculus removed. The late Dr. Sims was present, and it was only a short time after he had brought forward the merits of the silver-wire suture, and he suggested, in opposition to Dr. Krackowizer, who had expected to leave the wound open, the propriety of sewing up the opening in the bladder with silver wire. Dr. Krackowizer consented, and Dr. Sims applied the sutures. Dr. Jacobi believed that in consequence of the more protracted operation, perhaps in consequence of some irritation which was not attended with antisepsis, the patient died. As a rule, we do not expect patients to die on whom the high operation has been performed.

The next point which suggested itself to him while listening to Dr. Stein's excellent paper was this, the symptomatology of some of the cases is not always clear. Several modes of examination appear to give insufficient results; for instance, the introduction of the catheter into the bladder. The very fact that the catheter can be introduced into the bladder very high up does not prove that it is outside of the organ. He had seen a few instances in which there was no question at all, where he could feel the catheter in the neighborhood of the liver, and still it was within the viscus. In these cases there were congenital anomalies. In one instance he had to deal with the bladder in connection with an unclosed urachus, and the bladder extended all the way up to the umbilicus. Such a case might easily give the impression that the end of the instrument was outside of the bladder.

Another case was the following: A child, three or four years of age, had a tumor in the abdominal cavity. That tumor was in the median line, and extended as high as the region of the umbilicus, and it had two horns. There was also a depression in the median line, and at both sides the tumor extended pretty high up. It looked, therefore, like a bicorned uterus. Several diagnoses had been made, such as ovarian cyst, echinococcus, etc. But when he had the child under the influence of chloroform, for the purpose of examination, he found that he had to deal with the peculiar anomaly of a bicorned bladder, which extended far up to the left and to the right, with a little depression in the median line, with a very thin wall, and that when the urine flowed off entirely the tumor coincidently disappeared. In such exceptional cases one can very easily mistake about this symptom, the obscurity and insignificance of which Dr. Stein himself had emphasized. Dr. Jacobi asked if there was any particular danger in suturing the bladder.

DR. ALFRED C. POST said it had been done a number of times, and also successfully in a number of cases. The gynecologists were in the habit of sewing up the bladder in vesico-vaginal fistula, and their wounds united well. He remembered a case in which an operation for stone was performed through the rectum and the stone extracted, and the vesico-rectal wall sutured with success. He was unable to recall the name of the writer of the paper in which this case had been reported. He thought that in several cases of ovariotomy the bladder had been injured, and that sutures had been applied with success. If he remembered correctly, Dr. Thomas had reported one such case.

THE CHAIRMAN said that so far as suturing the bladder

was concerned the wounds had shown a very decided disposition to heal, and he saw no reason why the wounds should not be sutured, and why the surgeon should not go even so far as Dr. Stein had recommended, and incise the edges so as to give clean-cut, smooth surfaces to be brought into apposition.

Dr. H. Griswold remarked that if the mucous membrane was not included in the sutures he thought there would be no difficulty in obtaining union.

The Chairman said it was a fact that in many cases of rupture of the bladder, where the patient had lived several days, there had been a decided effort at union of the wound, the urine being constantly drawn off and the edges of the wound simply being allowed to lie in contact. In some instances the wound had been entirely closed, especially where the urine had accumulated behind the bladder in the cavity of the pelvis, and the inflammation had been such as had circumscribed it, and there was no general peritonitis. In some of these cases the wound had been entirely healed.

Dr. Jacobi said this might occur the same as it might take place in the uterus after Cesarean section; the wound healing as the parts were in juxtaposition.

The Chairman remarked that there must be some difficulty in suturing wounds of the bladder, because the bladder might disappear under the symphysis. He had known of two cases of rupture of the bladder, occurring in the practice of country physicians, and in each the bladder had entirely disappeared, and had been found under the symphysis. In one case, of which he knew personally, the physician in his search was unable to discover the bladder, and reported it as one in which the organ had been entirely absorbed. The bladder had so thoroughly disappeared under the symphysis that it required a little search to find it, but it was finally found, and the rupture could be clearly made out. The Chairman would ask Dr. Post's opinion concerning the value of perineal section in these cases, which had been insisted upon by some writers as the best method of draining the bladder.

Dr. Post said it would drain the bladder more perfectly than could be done with a catheter. The introduction of a tube through the perineum would cause less irritation than would be produced by the introduction of a tube through the entire urethra, and, with reference to drainage, it would give more perfect drainage, because a short, straight instrument could be used, and no muscular effort would be required to effectually empty the bladder.

The Chairman closed the discussion, remarking that the diagnosis of intra-peritoneal wounds was sometimes very easy, and again it might be very difficult. In general there is evidence of a full bladder, shock, inability to walk, desire to urinate without being able, great pain in the hypogastric region, discharge of bloody urine through the catheter, and occasionally the passage of the catheter through the rent. But these symptoms may vary very much, or, for the most part, be absent. In one case a surgeon fell from a horse, and was so slightly injured that in the evening he attended a dinner-party, where he related the accident to another surgeon, who stated that the symptoms indicated rupture of the bladder, which proved to be true, as he died in forty-eight hours.

The ability of the patient to urinate voluntarily has frequently been demonstrated. The true indications of treatment have long been recognized, viz., drainage of the urine from the bladder as fast as it is secreted, and removal of the urine from the peritoneal cavity. In general the catheter retained in the bladder is relied on for drainage, but it cannot be relied on implicitly. Opening the urethra as in perineal urethrotomy has been advised. But a more effectual drainage is secured by incising the neck of the bladder as in lateral lithotomy. This operation was recommended by him in a paper published in 1851, in which was reported a successful case of lateral cystotomy for rupture of the anterior walls by Walker, of Massachusetts. Mason repeated the operation successfully. The advantages are evidently due to the paralysis of the neck of the bladder, and the direct drainage from the base of the bladder, so that no accumulation can occur. It has been proposed to siphon the bladder, but no result has yet been obtained by this method. The removal of the urine from the cavity of the peritoneum has been accomplished in various ways. In the first reported case by Bonetus, paracentesis was performed, but without success. Blundell, the obstetrician, recommended in 1825, sixty years ago, the opening of the cavity of the peritoneum, and the thorough ablution of the abdominal cavity and its contents by means of the free injection of *distilled* water at 98° F. or more. The operation, he says, should be continued prudently, no symptoms forbidding, till the water comes away without manifesting the urinary characteristics. This method of cleansing the peritoneal cavity is not unlike that now advised by Mr. Tait. He also advised that, after cleansing the abdominal cavity, the ruptured part should be drawn up to the abdominal opening, the laceration closed with a ligature, the parts beyond the ligature cut away, one end of the ligature cut, and the other brought out of the wound. With the exception of providing drainage from the bladder, Blundell thus early met the indications of treatment. In the only case of undoubted intra-peritoneal rupture which recovered, the means employed was, cleansing the peritoneal cavity and the drainage of the bladder by the catheter. The closure of the wound of the bladder does not seem, therefore, to be a necessary part of the treatment when drainage is satisfactory. There is no doubt that when the urine is constantly drained away, the bladder remains so firmly contracted that the edges are in proper contact for union. Still, there can be no objection to closing the vesical wound with suture, and if there is doubt about the drainage the wound should be closed of necessity. In regard to the best method of securing the escape of the urine as fast as secreted, he believed that incision of the neck of the bladder by lateral cystotomy was the most certain. He had recommended this method in a paper which he published in 1851, embracing notes of seventy-eight cases, and it had been performed by several surgeons with satisfactory results as regards drainage, and with recovery in at least three cases. He had operated in one case of perforation of the bladder by a foreign body; the drainage was perfect; the patient died twenty-four hours after of other injuries, and the bladder was found firmly contracted and empty. Perineal urethrotomy is no substitute for cystotomy, as the neck of the bladder retains its power of obstructing the flow of urine. The use of the ordinary catheter cannot be relied on, as it does not entirely evacuate the bladder with certainty; if retained, it becomes a source of irritation; if used at intervals, it does not prevent accumulations of urine which may escape through the wound, and which, at any rate, must cause contraction of the bladder, and thus prevent that complete rest essential to the rapid closure of the wound. If a catheter is employed for drainage, it should be the soft, velvet-eyed instrument, and be introduced just within the neck, so that the internal end rests on the base of the viscus. The proposition to siphon the bladder with one of these catheters, the external end being submerged and the catheter firmly fixed so that the eye of the instrument constantly rests on the base of the bladder, would seem to fulfil the indications well. He would summarize the course of treatment that would most effectually meet the indications as follows: 1, Laparotomy and thorough cleansing of the peritoneal cavity, especial attention being given to the pelvic cavity and the convolutions of the intestines; 2, suturing of the wound in the bladder, if it can be readily effected; 3, lateral cystotomy, or efficient syphonage of the bladder.

Dr. H. Griswold asked the Chairman if he had found that perfectly fresh urine produced much irritation of raw surfaces. He had found that, in operating for rupture of

the perineum, fresh urine did not irritate the wound very much.

THE CHAIRMAN said it was a fact that the peritoneum in different persons and under different circumstances was much more readily irritated in one than in another. Whether the tolerance in some patients was due to change in the character of the urine was not always plain.

DR. POST asked if the extravasation of urine into the peritoneal cavity, although it might be immediately washed out, would not probably prove a source of very greatdanger to the patient.

THE CHAIRMAN replied probably not. The great difficulty was that patients did not have the benefit of medical attendance when the rupture occurred, and sometimes it was a matter of several hours, or even days, before surgical assistance could be obtained.

DR. WESLEY M. CARPENTER read a paper (see p. 144) on

THE INFLUENCE OF CHRONIC BRIGHT'S DISEASE ON THE SAFETY OF ANÆSTHETICS.

DR. POST referred to an operation which he saw performed by Dr. Bangs, at St. Luke's—a circumcision on a boy about ten years of age. The orifice of the prepuce was very small, scarcely admitting a probe. This patient had about five per cent. albumin in his urine, and, because of that, extraordinary care was taken in administering the anæsthetic. Respiration was not as good as usual, but the patient got through the operation safely. The question was raised at the time concerning the extraordinary care required in the administration of the anæsthetic on account of the kidneys not being in a sound condition. He had not met with a fatal case under the same circumstances.

DR. S. D. POWELL had seen one patient die after the administration of ether, and the autopsy showed disease of the kidneys. The patient was in the service of Dr. Hamilton, in Bellevue Hospital. He had, on several occasions, seen patients pass into a comatose condition after an operation, sometimes very slight, on the genito-urinary tract, and he had thought the condition was produced by the shock and not by the anæsthetic. He recalled one case occurring in the practice of the late Dr. James L. Little, where, without an anæsthetic, the passing of a catheter brought on, within one or two hours, coma, and it was only by the greatest care and attention that the patient's life was saved. There was a slight quantity of albumin in his urine, but no casts. He had thought that operations on the genito-urinary tract were more frequently followed by shock than operations upon other parts of the body, and had always looked toward the condition of the kidneys, no matter how simple the operation might be. He was inclined to attribute the condition to shock, combined with disease of the kidneys, rather than to the influence of the anæsthetic or the administration of ether.

DR. A. JACOBI said the entire subject was certainly a very vast one, and therefore only a few remarks would be justified at that time. When there is albuminuria, with some form of so-called Bright's disease, danger arises from several causes. Patients may die from real uræmia; frequently they die from anæmia, and now and then of anæmia and œdema of the brain. Even in such cases where the large blood-vessels are very much filled, in fact the more they are filled the more apt they are to compress the brain tissue, and, therefore, while such a condition looks like one of hyperæmia, it is really one of anæmia. Thus in many of these cases the patient appears to die of actual anæmia. In one of the cases reported by Dr. Carpenter the patient certainly died of anæmia of the brain. There was stenosis of the aorta, and consequent insufficient supply of blood to the entire body. That man was operated upon, did fairly well, and yet eight hours after the operation he had left his bed and been to the water-closet, and it seemed to him that the fatal result was due to anæmia of the brain, as patients were seen dying occasionally in this manner. He recalled a case of pneumonia occurring in a middle-aged man, and the patient was warned against getting up, but he did get up, went through the room, sat down upon the water-closet, started to go back to bed, fainted on the way, and was soon dead. He had seen many such cases in children who had not suffered from chronic kidney trouble; and also quite a number of children who had been taken very suddenly from bed after suffering from a protracted illness, and in consequence had died suddenly.

The second case reported by Dr. Carpenter, therefore, appeared to him to have terminated fatally from anæmia of the brain, perhaps influenced by the ether; at all events due to the atheromatous condition of the arteries, which resulted in the insufficient supply of blood. In cases in which persons have a slight amount of albumin in the urine, and in middle-aged persons, or persons in advanced life, with or without perceptible heart disease, there exists frequently very well-marked nephritis, extending through both kidneys, resulting from exactly the condition of things which Dr. Carpenter has described; namely, atheromatous changes in the aorta and arteries in general. We should not forget one thing—namely, that when we reach middle life and have blood-vessels fully developed, from that time on, perhaps past thirty-five years of age, what might almost be called a normal atheromatous degeneration begins. Thus it is that between forty and fifty years of age so many persons die of apoplexy, the result of rupture of cerebral blood-vessels. It is the rule for every middle-aged man to have an atheromatous condition of the arteries; usually in the smallest arteries, sometimes in the largest ones, as has been described. Thus it is that the large majority of brain cases, occurring as such, will be explained by the anomalous condition of its arteries.

Now, when we come to speak of cases of heart disease with nephritis, it is not always easy to say whether the heart disease is the result of the kidney disease, or whether the heart and kidney disease are the result of one and the same general condition; that is, a general, almost normal, atheromatous degeneration of the blood-vessels. These cases of Bright's disease are sometimes those in which we find no albumin whatever; in most cases we find only a trifling amount of albumin. Still, there is nephritis which is progressive, and finally will prove fatal. When we know that all persons above middle age are no longer absolutely normal, that the arteries of the body are in the process of atheromatous degeneration, we need not wonder that anæsthetics may prove unfavorable.

Dr. Jacobi then spoke of the theory of the cause of death in chloroform narcosis as presented by Nélaton and Sims, namely, the production of sudden anæmia of the brain, and the method of counteracting it by lowering the head in order to favor an increased supply of blood to the brain. Although this theory did not hold in all cases, both the observation and the treatment were excellent. Thus it was that very often we should look to nothing more than the condition of the heart, as the reader of the paper had said, and it is very fortunate that many conditions of the heart can be detected.

THE CHAIRMAN said that in Bellevue Hospital the rule was always to test the urine of every patient who was likely to have an operation.

The Section then adjourned.

ANTIPYRIN IN ACUTE ARTICULAR RHEUMATISM.—Neumann has employed antipyrin, in six or eight hourly doses of fifteen grains each, in the treatment of rheumatism, and believes that it possesses virtues equal to those of salicylic acid. He even prefers it to the latter drug in many cases, as the poisonous effects sometimes observed after the use of salicylic acid are, he says, never observed when antipyrin is employed.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

A CASE OF HYDROPHOBIA—HOSPITAL STATISTICS—SIMULTANEOUS ADMINISTRATION OF BELLADONNA AND IODIDE OF POTASH.

PARIS, January 15, 1886.

DR. DUJARDIN-BEAUMETZ lately read his report at the Council of Public Hygiene of a fatal case of hydrophobia that occurred at Colombes, situated just outside Paris, after a period of incubation of nineteen months. This appears to be the first authentic case on record, at least in this country, of rabies manifesting itself so long after the subject had been bitten. According to the report, the patient, who was twenty-six years of age, was slightly bitten in March, 1884, in the right hand, by a dog that did not seem to labor under any rabic symptoms. It was nevertheless killed, but no autopsy of the animal was made. Although the subject bitten entertained no fears about himself, yet he had the wound painted with the tincture of iodine and thought no more of the incident. On November 1st last, feeling some pain in the site of the wound, he consulted his doctor, who expressed his fears to the family as to the case being one of incipient hydrophobia. The doctor immediately communicated the circumstance to M. Pasteur, and called on him the next day to consult him on the subject, but the learned biologist said he could do nothing for the patient, adding: "I can preserve, but I do not cure." The symptoms of hydrophobia set in rather insidiously. On the 5th they became quite characteristic, and were accompanied by symptoms of paralysis—a rare complication in the human subject. On the night of the 7th delirium set in, and he expired in the most terrible agony. This case is interesting in many respects. In the first place, the unusual length of the period of incubation, though the physician who treated the patient under notice had met another case of fourteen months' incubation. 2. It shows the absolute insufficiency of the slight cauterization with the tincture of iodine. The red-hot iron would probably have prevented the introduction of the virus into the system. 3. The duration of the manifestations of hydrophobia: one entire week, from Saturday, October 31st, to Saturday, November 7th. According to Trousseau, death takes place in man constantly in the four days which follow the difficulty of swallowing liquids. 4. The setting in of pain in the right arm a week before the appearance of the rabic symptoms. It must be remembered that the bite was inflicted in the right hand. This case also proves that a person bitten by a mad dog from eight, ten, twelve months, and more, cannot be considered safe against the malady, and that perhaps the method of preventive inoculation as practised by M. Pasteur may still be applicable to such cases.

Apropos of the duration of the period of incubation, Dr. Dujardin-Beaumetz brought to the notice of the Council of Hygiene that since 1881 he was able to establish an average period of incubation of from three to four months in fifty-eight cases of human rabies that have occurred since that period.

You lately referred to the statistics of the hospitals of the United States. Perhaps a short account of those of the hospitals of France, which I extract from the official report just issued from the office of the Minister of the Interior, will be interesting to your readers. During the last ten years the annual average of admissions into the hospitals throughout the country was 410,000. In general there is a proportion of 90 per 10,000 inhabitants for the provinces alone. For Paris the proportion of patients treated in the hospitals has been 400 to 10,000 inhabitants. The average duration of treatment in provincial hospitals has been thirty-five and one-half days, for Paris it is only twenty-nine days. In classifying the average duration of treatment of the patients we find: Thirty-one days for men, forty for women, and forty-eight for children throughout the territory. As regards the issue of the results of treatment in the hospitals, there have been seventy-eight per cent. cured and nine per cent. of deaths in proportion to the number of patients treated, which would give an average proportion of nine times more cures than deaths. This is evidently a strong argument in favor of hospital establishments. The largest proportion of cures was among the men, and the smallest among the children, which may be represented thus: Eighty per cent. for men, seventy-five per cent. for women, and seventy-four per cent. for children. The mortality for the Paris hospitals alone is, like that of Vienna, one-fourth, and even one-third, of the total number of deaths of the population of these two cities; whereas in London and New York it constitutes scarcely one-sixth. There are in Paris twelve general hospitals and nine hospitals for special diseases, all containing 9,000 beds. There are also six asylums for the aged and infirm and five establishments for lunatics, containing 10,045 beds. The average cost of each patient in the Paris hospitals is about three francs per day; that for the provinces is about half that sum. Besides these establishments there is one for the "Enfants Assistés," which is a sort of a substitute for the old Foundling Asylum, the average number of admissions being 10,000 per year. The staff of the hospitals of Paris is composed of 99 physicians, 46 surgeons, 1,225 internes and externes, 18 pharmaciens, 108 internes in pharmacy, and 9 midwives (sages-femmes). The population of Paris is estimated at 2,239,928, and that of France over 30,000,000.

Dr. Aubert has lately published a short note on the advantages of the simultaneous administration of belladonna and the iodide of potassium. The author claims for this combination the prevention of iodism, which occurs in some people even in small doses of the iodide.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 24, 1886, to January 30, 1886.

SUMMERS, JOHN E., Colonel and Surgeon. Retired from active service, by operation of law, January 24, 1886. S. O. 20, A. G. O., January 25, 1886.

WATERS, WILLIAM E., Major and Surgeon. Granted leave of absence for one month and fifteen days. S. O. 5, Division of the Atlantic, January 23, 1886.

BANISTER, J. M., Assistant Surgeon. Ordered for temporary duty at Fort Warren, Mass. S. O. 16, Department of the East, January 23, 1886.

HYPODERMATIC QUININE.—Dr. S. S. Burt says in the *Quarterly Bulletin of the New York Post-Graduate Medical School:* "For those who are obliged to administer quinine subcutaneously, it is desirable that the solution should be as little irritating as possible. Lente's solution consists of bisulphate of quinine 50 grains, dilute sulphuric acid 100 mm., and carbolic acid 5 mm. to an ounce of water. He apparently did not know that the bisulphate is quite soluble in water without the addition of dilute sulphuric acid. Having made use of the following formula, I can recommend it:

℞.	Quiniæ bisulphatis	gr. lx.
	Acid. boracic	gr. ij.
	Morphiæ sulphatis	gr. ½.
	Aquæ destil	℥ j.

Sig.: For hypodermic use. One drachm contains seven and a half grains of quinine."

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 30, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
January 30, 1886.....	2	6	44	2	21	62	6	0
Deaths.								
January 30, 1886	0	1	10	1	1	32	1	0

TWENTY-EIGHT PER CENT. of imbeciles are left-handed (Dr. Ireland).

A SUGGESTION FOR THE TRANSFUSION OF BLOOD.—A St. Louis doctor cut off the tails of two lizards, and by sewing the ends of the stumps together made Siamese twins of the reptiles. Having thus demonstrated the feasibility of the operation, he suggests its utilization as a means of transfusing blood.

BOOKS BOUND IN HUMAN SKIN.—Following the example of Mr. Joseph Zaehnsdorf, who lately bound two Elzevir editions in human skin, another London binder has recently executed an order to encase a copy of Holbein's "Dance of Death" in the same material—assuredly a most appropriate covering for this work. These are the most recent instances of the use of human skin for such a purpose; but they are far from unique, several criminals in olden days having been, after execution, despoiled of their integument in order that the book-shelves of some *connoisseur* of bindings might be enriched by the ghastly relic.

ALPHONSE KARR, one of the most charming of simple philosophers, tells us that "physicians, for a long time, applied the roots of fennel pounded with honey to the bites of mad dogs. At the end of three or four hundred years it was discovered that this had never cured anybody." For the older doctors, attributing virtues to plants based upon analogy, concluded that fennel must be an antidote to the bite of snakes, because, as Pliny says, snakes are exceedingly fond of it.

MEDICAL LIVERIES.—Writing on liveries the London *Evening Standard* says: "Some of the ways by which medical men announce their profession plainly come within the category of liveries. There are few survivors now of the old school, who always dressed in solemn black, with frock coat and deep stock, but specimens of this class are still to be met with in country places. In the towns doctors do not cultivate an eccentric style in dress, but an air of preoccupation and much learning indicates who and what they are. It is as easy to tell a doctor, as he drives through the street, as it is to distinguish a sailor or even a policeman. In his consulting-room, or at his patient's house, his personal idiosyncrasies—the familiarities he affects or which are natural to him—are seen in strong relief. He may be as bland as a deputation, or as peremptory as a police magistrate. He may flatter you into a belief in his own wisdom by appearing to concede everything to yours, or he may awe you by a dogmatic statement of opinion that makes no question of its own accuracy. There are many varieties between these types; but types they all are, and to be classified as we classify the liveries of less learned men. There is a peculiarity about the names of doctors—particularly of specialists—which we have never been able to understand. If the physician we are advised to consult happens to be named Jones or Brown, the chances are ten to one that Providence, or some other benign agency, has given him another and more impressive name also, which forms an excellent combination with the simple patronymic. Dr. Jones is Dr. Phipps Jones; Dr. Brown is Dr. Tibbs Brown. This sort of combination is so common—there is scarcely even a dentist without what looks like a distinguished prefix to his name—that we may be forgiven for questioning whether in all instances it dates from the baptismal font. If it does, then there is more in the doctrine of election and predestination than we have been accustomed to suppose."

STATISTICS OF THE LONDON MEDICAL CHARITIES.—From the "Classified Directory to the Metropolitan Charities" it appears that the approximate income of the 1,014 medical charities of London during the past year was £4,466,556 (above $22,000,000), of which the following are of a medical character: Nine charities for incurables, £47,348; three charities for idiots, £61,000; seventeen general hospitals, £321,930; eight consumption hospitals, £55,635; five ophthalmic hospitals, £9,399; three orthopædic hospitals, £5,236; three skin hospitals, £6,014; twenty-one hospitals for women and children, £64,933; six lying-in hospitals, £10,988; twenty-nine miscellaneous special hospitals, £108,470; thirty-three general dispensaries, £25,036; thirteen provident dispensaries, £10,094; two institutions for vaccination, £2,585; six institutions for surgical appliances, £14,336; forty-five convalescent institutions, £48,577; and fourteen nursing institutions, £3,030.

THE PRESERVATION OF ANATOMICAL SPECIMENS.—At one of the sessions of the Italian Medical Congress, held during September, 1885, Professor Angelo Comi, of Rome, described the method employed by him in the preservation of anatomical specimens. For producing a stony induration of organic bodies, he makes a soft paste of bichloride of mercury rubbed up in a mortar with linseed oil. Into this the substance which it is desired to preserve is put and kept for several months. At the end of this time it is removed, washed, and dried carefully, and then polished with a piece of agate. If the specimen has any cavities, these are first filled with a mixture of equal parts of finely powdered cement and bichloride of mercury. By this process the anatomical preparations acquire a stony hardness, and all their delicate lines are preserved in all the beauty and distinctness of the fresh state. When it is desired to keep the specimens soft and flexible, Professor Comi simply puts them in pure honey, the cavities being previously filled with tannin. In this way bodies may be kept perfectly fresh for several months.

THE COMMERCIAL RESULTS OF A NATIONAL MISUNDERSTANDING.—The pharmacists of the province of Galicia, in Spain, at a reunion held in October last, when the matter of the Carolines dispute was fresh, unanimously resolved to purchase no more drugs or chemical preparations from German houses, but to transfer their custom to French firms.

LOCAL APPLICATIONS OF COPAIBA IN VAGINITIS.—Dr. Baratier recommmends very highly the local use of copaiba in the treatment of various forms of vaginitis. He employs a suppository containing three-fourths grain of extract of opium and one and one-fourth drachm each of copaiba and cacao butter. One of these is passed into the vagina every second day and allowed to remain for twelve hours.

DEATH OF AN EMINENT HYDROLOGUE.—Dr. Benigno Villafranca y Alfaro, one of the most active members of the Spanish Society of Medical Hydrology, recently died at the age of fifty years. The society devoted one of its sessions to a eulogy of the deceased, and dedicated to his memory the November number of its annals.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 7 NEW YORK, FEBRUARY 13, 1886 Whole No. 797

Original Articles.

COMMENTS ON PASTEUR'S METHOD OF TREATING HYDROPHOBIA.[1]

BY CHARLES W. DULLES, M.D.,

SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA, AND OF THE PRESBYTERIAN HOSPITAL IN PHILADELPHIA, ETC.

I HAD intended, as the notice of this meeting states, to discuss this evening the whole subject of the treatment of hydrophobia. But I have found that I could not cover so much ground at one time, and so I have decided to confine myself to that phase of the question which has been forced upon the notice of the whole world by the recent announcement of the discovery of a preventive method by M. Pasteur. If this method were trustworthy, it would eclipse anything which has ever before been accomplished in dealing with this mysterious and dreaded disorder. If, on the other hand, Pasteur's method is not to be trusted, it can only prove an obstacle to any real advance in our knowledge of a subject already too much encumbered with error.

For this reason it seems to me to be important that such a body as this should critically examine the evidence adduced in support of this method; so that if it appears to rest on a sound basis of reason and experiment we may adopt and recommend it; while, if it appears to be founded on untrustworthy experiments and unsound reasoning, we may reject and condemn it, in the interest of humanity as well as of science.

M. Pasteur's first communication on the subject of hydrophobia was made in a discussion before the Académie de Médecine, of Paris, January 18, 1881, when he announced that on December 11, 1880, he had inoculated two rabbits with saliva (or buccal mucus) from the mouth of a child supposed to have died of hydrophobia. The rabbits died in thirty-six hours, and in their blood he found a microbe in the shape of a figure 8, which he declared to be a new one, and to be the cause of a new disease (*Bull. de l'Acad. de Méd.*, January 18, 1881).

M. Colin, of Alfort, said this microbe had been described and figured ten years before, and that Pasteur should have searched for it elsewhere than in the saliva of persons dying of hydrophobia. He also said that Pasteur should have made control experiments to show that the inoculation of other sorts of saliva would not produce the so-called "new disease." To this Pasteur promptly replied with an interruption: "These experiments have been made without giving any results" (*loc. cit.*, p. 78).

Pasteur made his second communication at the meeting held the following week, January 25th, in a "Note sur la maladie nouvelle provoquée par la salive d'un enfant mort de la rage" (*Bull. de l'Acad. de Méd.*, 1881, pp. 94–103). In this communication he says that he had cultivated his new microbe and repeated his inoculation experiments with the cultivation as well as with the blood, a great number of times, the result being *always the same.*

These positive and unqualified declarations of Pasteur soon proved to be utterly erroneous. All that Colin had affirmed, and all that Pasteur had denied, was soon shown to be true. The microbe was not new; it was not peculiar to rabies; and the inoculation of other kinds of saliva, even that of a healthy adult, produced the same results. Pasteur himself had to acknowledge this in a letter dated March 22d, only eight weeks after his vehement and bitter repudiation of Colin's objection (*Bull. de l'Acad. de Méd.*, 1881, pp. 380, 381), and, as we know, his acknowledgments have been confirmed in this city by the experiments of Drs. Sternberg and Formad.

Pasteur's third communication was read May 31, 1881. It was entitled "Sur la rage," and was founded on experiments made with MM. Chamberland, Roux, and Thuillier (*Bull. de l'Acad. de Méd.*, 1881, pp. 717–719). In this communication he declared that "up to the present time the disease has not been communicated by the inoculation of the blood of those having rabies" (*loc. cit.*, p. 717).

In saying this Pasteur (who has never seemed aware of anything done by other experimenters, except a very few of his own immediate time and country) was, of course, utterly ignorant of the admirable and accurate experiments of Hertwig (published in 1828, in a supplement to Hufeland's *Journal*) in which the blood of mad dogs, rubbed into cuts made in healthy dogs, caused their death, after a typical incubation, in two instances, one of the dogs dying "fully mad." But he ought to have remembered that at the very meeting at which he had made his first essay in regard to hydrophobia, MM. Raynaud and Lannelongue made a detailed report of experiments, in which they had got their inoculating materials from the same patient which had supplied Pasteur with his, and that inoculations of the blood of a rabbit, dying after inoculation with the medulla oblongata of the child that had died of hydrophobia, killed two other rabbits, while the blood of one of these latter caused the death of a third. This, according to Pasteur's own standard of proof, constitutes a demonstration of what he calls the "virulence"—that is, the specific rabic nature of the inoculation material.

This evidence of ignorance on the part of Pasteur was followed up with an implied claim, which has grown stronger since then, that he and his assistants first considered the central nervous system as peculiarly involved and active in the development of the disease. Without discussing the value of this claim, or of the idea, it is interesting to observe that the evidence of its correctness rests upon Pasteur's statement that on inoculating the brain-substance of a mad dog upon the surface of the brain of another dog, by trephining, the symptoms of rabies appear after "a week or two," and that the dog *dies* in less than three weeks (*loc. cit.*, p. 718). Now, what Pasteur means by the "first symptoms" of rabies may perhaps be surmised from his statement in another place: "Nothing is more varied than the symptoms of rabies. Each case of rabies has, so to speak, its own peculiar ones" (*Bull. de l'Acad. de Méd.*, 1882, p. 1442); and again (speaking of rabbits), he determines the onset of the disease "by a change of temperature" (*Bull. de l'Acad. de Méd.*, 1884, p. 343). It is true that he says, in the communication of which I was speaking, that he got "sometimes dumb madness and sometimes furious madness," and that "none of the inoculations made in this way have failed;" but he omits to mention how many experiments he had made, or what proportion of them produced either form of rabies, or what he means by these terms.

The fourth communication of Pasteur in regard to hydrophobia was a paper entitled "Nouveax faits pour servir à la connaissance de la rage," in which the names

[1] Read before the Philadelphia County Medical Society, January 13, 1886.

of the same assistants appear, and which was read December 12, 1882, nineteen months after the last (*Bull. de l'Acad. de Méd.*, 1882, pp. 1440–1445).

In this he says that heretofore "the saliva was the only material in which the presence of the virus of rabies had been established," and that the inoculation of this was uncertain and tedious in its results. By experiment he had found that the central nervous system was the principal seat of the virus; that here the latter can be gathered in large quantity and "in a state of perfect purity," and that its inoculation on the surface of the brain causes rabies "promptly and surely." At the same time he declared that he and his assistants had "found the same advantages, with forms of rabies slightly different, in another method still more easily applicable, intravenous injection of the virus" (*loc. cit.*, p. 1441). To his assertion that the virus is found in the brain, he adds the statement that it is also found in the spinal cord, and often (note: it is only often, not always) in all parts of the cord. By inoculating either brain or cord on the surface of the brain, or by intravenous injection, rabies, he says, can be developed promptly and surely (p. 1443). By the latter method (intravenous injection) he got a rabies in which "early paralysis often occurs; fury is often absent; rabic howling is rare;" but, as a set-off to the lack of these characteristic signs of real rabies, he gravely asserts, "there is sometimes frightful itching" (!). He had also seen his animals with experimental rabies spontaneously recover; and, in some cases, seem to get well, and then have a recurrence of the disease two months afterward and die. (In passing, I may remark that such a course is diametrically opposed to all the history of this disease.)

In this communication we have also the only statement which I can recall as to the sources from which Pasteur has obtained his virus, viz., two dogs in 1880, since which time, he says, rabies had been kept up (*entretenue*) "without interruption" in his laboratory. At "different times" they had utilized dogs which had died of rabies in the Veterinary School at Alfort; and very recently they had received the head of a cow which had died on a farm "in consequence of bites received from a mad dog." It is interesting (as Pasteur says) to know that all the animals inoculated from various parts of the brain of this cow had already died of *rabies*. The sum of his experiments at this date was over two hundred, including dogs, rabbits, and sheep (*loc. cit.*, p. 1445).

Pasteur's fifth communication in regard to hydrophobia was made on February 26th, 1884 (fourteen months later), in his own name and in that of MM. Chamberland and Roux. It was entitled "Nouvelle communication sur la rage" (*Bull. de l'Acad. de Méd*, 1884, 337–344). In it he announced the theory that the difference between the form of rabies produced by intravenous inoculation and that produced by inoculation upon the surface of the brain, was due to the fact that in the former case the virus first becomes fixed and multiplies in the spinal cord. When he killed dogs at the moment of the "first symptoms of paralysis" (a most vague limit, especially when determined by such a man as Pasteur) he found that the cord, especially at the lumbar enlargement, might be "rabic" when the medulla oblongata was not yet affected (*loc. cit.*, p. 333). He claims that he had already demonstrated (we might say asserted) that the virus had its seat in the brain and cord, and that later he had found it in the nerves and in the salivary glands. The whole nervous system, he now declares, is capable of "cultivating" the rabic virus. But all his efforts to "cultivate" the virus of rabies artificially had failed.

When asked by M. Bouley if there were no *microbe* of rabies, Pasteur answered that he could only say that if shown two brains, one healthy and the other of a rabid animal, he could say from a microscopic examination: "This one is rabic; that one is not;" adding, that "both (of these brains would) exhibit immense numbers of molecular granules, but those of the rabic medulla are smaller and more numerous, and one is tempted to believe in a microbe of infinite smallness, having neither the shape of a bacillus nor that of a *microcoque étranglé*; they are like simple points." This very vague description of the supposed germ of hydrophobia was not even original; for M. Béchamp, of Lille, soon showed that he had already studied, and described under the name of "microzyme," what Pasteur spoke of as if *he* had first recognized it.

The next thing which attracts attention in this communication of Pasteur is the reassertion that inoculation by intravenous or hypodermic or intracellular injection is followed by paralytic rabies; coupled with the paradoxical statement that furious rabies can be produced "on the sole condition of using *very small* quantities of virus." "The less virus," he says, "employed for hypodermic or intravenous inoculations, the more readily is furious rabies obtained."

Now, in addition to the difficulty of comprehending how intravenous inoculation of small quantities of virus can produce the furious form of rabies, and larger quantities the mild form, what becomes of Pasteur's explanation of the production of the milder form by "fixation" as he calls it, of the virus in the spinal cord? If the ordinary quantities become "fixed," why do not small quantities become fixed too? Again, he says that the employment of small quantities of the virus may prolong considerably the length of the incubation, and that by pushing the dilution beyond a certain limit, which is not very high, inoculation of the virus is without effect (*loc. cit.*, p. 340). Now, in this same communication Pasteur declares that he judges the virulence of a virus by the relative shortness of its incubation. So he stands as asserting that a virus used in very small quantity is relatively weaker (as manifested by a lengthened period of incubation), while in the same breath he demonstrates that it is relatively stronger, since it produces more easily the most furious forms of rabies! In this connection we must not overlook the fact that these contradictions have been followed in his last communication on the subject by the astounding assertion of Pasteur that in his preventive inoculations in human beings the attenuation consists not in a reduction of the virulence (the key-stone of the former theories), but in a reduction in the *quantity* of the virus employed.

Again Pasteur here mentions an experiment in which a rabbit after inoculation by trephining had paralysis (*rabic*, he calls it) thirteen days later, and then recovered entirely; but forty-three days afterward the paralysis returned and the animal died in three days. The same, he says, he has also seen in dogs.

Here we note three discrepancies: 1, That inoculation by trephining did not produce the characteristic form of rabies *promptly and surely*, as Pasteur has so often said it will; 2, that it did not produce *furious* rabies at all! and, 3, that the rabies "recovered" and recurred—a thing which never happens in natural rabies.

It was at this time that Pasteur advanced the ingenious theory that inoculation of the hydrophobic virus in different animals (in series) produced a fixed degree of virulence, differing with the species of animals used, and declared that he had found "the practical way to obtain dogs refractory to rabies, in numbers as large as one could wish." He couples this statement with the reasonable assertion that to do this solves the question of the prevention of rabies in dogs and in man. But if this was true in February, 1884, how can we account for the fact that in the two years which have since elapsed not a single dog has been rendered refractory to rabies outside of Pasteur's laboratory?

Pasteur made his sixth communication in his own name and in those of MM. Chamberland and Roux, to the Academy of Medicine, May 20, 1884. It was entitled "Sur la rage" (*Bull. de l'Acad. de Méd.*, 1884, pp. 661–664). In this he announced that he believed he

could "surely bring about a refractory state in (human?) subjects before the mortal disease breaks out, in consequence of a bite (*loc. cit.*, p. 663)." To a reporter of the *Figaro* he said at this time, "anybody bitten by a mad dog has only to present himself at the laboratory of the École Normale, and by inoculation I will make him completely insusceptible to the effects of hydrophobia, even if bitten subsequently by any number of mad dogs." And, again, "Whoever gets bitten by a mad dog has only to submit to my three little inoculations, and he need not have the slightest fear of hydrophobia." If we pass by the boastfulness of these statements and confine ourselves to a study of the ground upon which they rest, we find that it can be resolved to this: Pasteur claims that when he "extracts" his virus from a mad dog, and inoculates it by trephining upon a monkey, and then from monkey to monkey, it diminishes in intensity. Virus obtained by similar successive inoculations in rabbits increases in intensity. He obtains his attenuated virus, then, by inoculating a series of monkeys (and it is a lucky coincidence, since monkeys are scarce, that it requires only a few monkeys to get what he wants); after which he can grade it up to any point he chooses by transferring it to the rabbit, in series. Thus, by working first backward and then forward, he comes by an attenuated virus, with the weakest power of which he inoculates at the same time a dog and a rabbit; the second inoculation of the dog and a new one in a third rabbit is made from rabbit No. 2; a third inoculation of the dog is made from rabbit No. 3.

"By this time" (*ensuite*), Pasteur claims, "the dog is entirely refractory to rabies, either by intravenous inoculation or by trephining with the virus of dogs with ordinary hydrophobia" (*loc. cit.*, p. 662). In trying to understand this, we ask in vain how he extracts his virus? from what part of the animal he gets it? how he judges that his virus is getting stronger? since he had before asserted (p. 343) that it required a *series* of transmissions to fix the virulence of inoculated virus, and that before reaching this "fixed" point it "*varies ceaselessly.*" This certainly would imply more than three experiments before he could assume any trustworthy diminution or increase in intensity. I have figured it out that if he started with a rabbit dying after an incubation of ten days (the very shortest limit supposable), one experiment would require thirty-two days, four rabbits, and a dog. If his monkeys be supposed to enter into his practice, as well as into his theory, this limit would rise to not less (for three, we will say) than about three months in all, assuming that the weakening of the virus is judged in monkeys also by lengthening of the period of incubation. How many such experiments can we imagine that Pasteur has ever practised. I say "imagine," for he has nowhere given any hint in regard to it.

Once more, this communication contains the following sentence: "By inoculations of the *blood* of rabid animals, in determined conditions, I have succeeded in simplifying considerably the operations of vaccination, and in securing for dogs the most decided refractory state" (*loc. cit.*, p. 663). Here I call your attention to the appearance of blood upon the scene, and the fact that it simplifies matters so much; whereas, we have seen that Pasteur at first denied the inoculability of the blood, and we shall see that, without giving any reason whatever, he soon switches off to the spinal cord, and we hear of this "simplifying" blood no more.

Pasteur's seventh and last communication on this subject is boldly entitled "Méthode pour prévenir la rage après morsure" (*Bull. de l'Acad. de Méd.*, October 27, 1885, pp. 1431–39). In this, after a complacent announcement of the value of his earlier discoveries, he confesses that his previous method would only render refractory to rabies fifteen or sixteen out of twenty dogs. To ascertain the fact of refractoriness requires not less than three or four months, he says, which restricts very much the application of the method—and, I may add, indicates how few experiments he could have carried out to their conclusions.

He had, therefore, attempted to discover a method which he could "dare to call *perfect.*" "After experiments, so to speak, innumerable, I have," he says, "discovered a preventive method, which is practical and prompt, the successful applications of which to dogs are already numerous enough and sure enough for me to have confidence in its general applicability to all animals and to man himself" (*loc. cit.*, p. 1432).

This method may be summarized as follows: An attenuated virus is obtained by inoculating a rabbit, by trephining, with "rabic spinal cord" of a dog dying of ordinary rabies (*rage des rues*), and then a second rabbit with the spinal cord of the first, and so on in series. After a *very long* series it is found that a "virus" is obtained which kills rabbits in seven days. When this point is reached pieces of the spinal cord of one of the victims are removed "with precautions of purity as great as it is possible to secure," and suspended in small flasks in which the air is kept dry by a piece of caustic potash. With each day that it is kept such a piece of spinal cord becomes less virulent.

The treatment consists in taking a small piece of one of these cords and "dissolving" (*délayer*) it in sterilized veal-broth, and injecting a Pravaz syringeful under the skin of the dog. The age of the piece of cord used must be such that it does not endanger the life of the subject of the experiment. How to ascertain the proper age Pasteur says he knows from experience; but unfortunately he forgets to say how any one else may decide the matter (*loc. cit.*, p. 1433). The effect of this treatment Pasteur, when he made his report, had tried on one human being, the now famous Joseph Meister, nine years old, bitten July 4th by a dog supposed to be mad. His bites were numerous. The principal ones had been cauterized the same day with carbolic acid. At an autopsy the dog's stomach was found to contain hay, straw, and bits of wood; and on this fact alone the diagnosis of rabies in the dog rests to this day. Pasteur called Dr. Vulpian and Dr. Grancher to see the boy, and they said he was almost inevitably exposed to contract hydrophobia, "*on account of the severity and the number of his bites.*"

"The death of this child appearing inevitable," Pasteur then decided, "not without keen and cruel solicitude," to try his new method on him. He inoculated the boy with a half syringeful of spinal cord (he says, meaning no doubt diluted or *délayé*) fifteen days old. He made in all twelve hypodermic injections in ten days, each day using a fresher cord, and then sent the boy home cured, having "escaped not only the hydrophobia which his bites might have developed, but that with which I had inoculated him, to test the immunity due to the treatment, a hydrophobia more virulent than that of street dogs" (*loc. cit.*, p. 1436).

In commenting upon this communication there are two sets of objections to be raised. One relates to the case of the boy Joseph Meister, which has attracted such attention the whole world over. The other relates to the general statements made, regarded from a scientific standpoint.

In regard to the case of the boy, it may be briefly stated: 1st, Because there is no proof that the dog that bit him was mad (everybody ought to know that the contents of a dog's stomach are of no value as evidence of rabies), and because the boy's wounds had been cauterized, there is no reason to assume that he was in danger of having hydrophobia; and, 2d, if he was, it is by far too soon to say he is free from the danger.

When we come to compare the assertions in this communication with the evidence in support of them, we do not wonder that the prudent Jules Guérin begged the unwilling President to let him utter a word of protest before this announcement should go out to the world with the sanction of the Academie de Médecine. As usual, Pasteur, in this communication, speaks of his last ex-

periments as "always" successful (*loc. cit.*, p. 1432). Again, his experiments have been "innumerable, so to speak." Unfortunately, here as elsewhere (with one exception), the actual number is not named, and his vague statement will bear analyzing. The conclusions at which he has arrived could only properly rest on a number of *uninterrupted series* of experiments, each complete and successful from beginning to end. Now, I have taken the trouble to figure out what a single series would involve, and I find it means no interruption and no failure in experiments requiring one hundred and thirty or one hundred and forty rabbits, and a period of from about two and a half to nearly three years! An interruption anywhere would break up a whole series. Now—supposing no interruption had occurred—how many such series could Pasteur have been carrying on during the three years since, he says (*loc. cit.*, p. 1432), he began them? Again, what seems to me the most fatal objection to the idea that Pasteur's experiments could possibly have been trustworthy throughout these immense series is the fact that, by his own admission, *a full half* of the spinal cords, used in the crucial experiment on Joseph Meister, which gave him such "cruel inquietudes"—as well it might—*proved to have no virus* when tested on rabbits! Out of eleven, he says, five were without virus, five were virulent; and of one, singularly enough, he says nothing (*loc. cit.*, p. 1436). If this could happen in the only detailed experiment which Pasteur has ever recorded, and when everything seemed to depend upon the infallibility which Pasteur had so often claimed, what are we to think of the experiments done in the secrecy of his laboratory, of which no record has ever been given, and of which not a single witness has ever spoken except Pasteur?

Another matter to be remarked just here is that until now Pasteur had given no hint that the virus of hydrophobia could be attenuated so simply as by desiccating the spinal cord. And yet, if his own statements are true, he must have been far advanced in his experience with this method at the very time when he was startling the world with his backward and forward modifications of the virus in monkeys and rabbits, and presenting this as the way to obtain the virus for what he called his "three little inoculations." If we take the trouble to place side by side Pasteur's statements at different times, we see that they are so inconsistent that the cordial acceptance of almost any one of them seems to demand that the preceding ones should be banished from our memory. At first it was in the brain that the virus was to be obtained in perfect purity; then trephining and intradural inoculation was the sovereign method; then intravenous inoculations were said to simplify the matter; then blood was a good virus; then smaller quantities produced fiercer rabies; then inoculations in series modified the virus after many variations; then a few monkeys and rabbits did the work; then rabbits alone sufficed, while the virus was weakened by drying the cord. And, to crown all, forgetting the traditions of his own work in regard to charbon and chicken cholera, Pasteur says that the protective character of his virus depends upon a reduction in quantity and not in the virulence of the virus (*loc. cit.*, p. 1437).

What! And when we catch our breath, we cannot but recall what has gone before, and say: If the hypodermic injection of reduced quantities of virus was the means Pasteur found would most readily produce the most furious forms of rabies, in February, 1884, when he must have been half-way through the series of experiments upon which the present communication rests, how could the remaining half have sufficed to show that the same way of proceeding would exert a kind and protective influence on the same animals and on men?

But I must close my comments on this communication with the latest of Pasteur's theories. He actually intimates that the virus of hydrophobia "may be formed of two distinct substances, and that by the side of one which is animate and capable of germinating in the nervous system, there may be another, inanimate, having the power, when in proper proportions, to arrest the development of the former" (*loc. cit.*, 1438).

Since M. Pasteur made his last communication to the Académie de Médecine and to the Académie des Sciences, the enterprising *New York Herald* has given much space to discussing his method and its application. We have all heard of the four children sent from Newark to Paris after being bitten by a dog of which there is not the remotest evidence that it was mad, and of their return to America in apparently as good a state of health as is still enjoyed by the remaining two, who were bitten at the same time by the same dog, and who have never stirred from home. Three other Americans have gone over, viz., a man named Kaufmann, another by the name of Sattler, and a boy named Edward Bucklin. In regard to these patients there is equally little evidence that they have been exposed to the bite of a rabid dog. Indeed, in the case of one of them, it is denied that he was bitten at all. Pasteur is said to have refused to practise on him, and again he is said to have done so. All these seem to have maintained their health in spite of their bites, their fears, their long journey, and their inoculations with Pasteur's weak and strong viruses. One of M. Pasteur's patients, a girl, aged six, died of rabies while under treatment by him. This mishap Pasteur explained by saying she had come to him thirty-six days after being bitten, and that the virus in her system had made too great progress to be stopped. Its rapid action he explained on account of her youth—an assertion which is not borne out by facts—and because she had been bitten on the head, *i.e.*, near to the brain. This latter explanation is in accord with one of Pasteur's theories borrowed from Davaine; but it is also opposed to facts with which he should have been familiar; for, as lately as April 8, 1884, Dr. Dujardin-Beaumetz added, to what was clear enough before to any one who had carefully studied the subject, the confirmation of a report to the Academy of Medicine, of which M. Pasteur is a member, on the cases occurring in the Department of the Seine, in the three years 1881, 1882, and 1883 (thirty-four cases in all), which showed that there was no relation between the point of inoculation and the period of incubation.

On December 8th Pasteur said: "I am confident my treatment will be successful, if commenced *at any time before actual hydrophobia sets in*, even if a year or more elapses between the bite and the commencement of treatment." This was on the very day, I believe, on which the little girl died, and suggested to him that thirty-six days was a long time to wait, while on January 1st of this year he says that his treatment is efficacious *even* fifteen days after a bite!

The very last utterance of Pasteur on this subject is contained in the statement prepared for the *New York Herald*, under his direction, by his assistant, M. E. Wasserzug, on January 1st of this year. This embodies a good account of his last method, in which it is noticeable that while he specifies that he uses half a Pravaz syringeful of his mixture of rabic medulla and sterilized veal-broth for a child (as compared with three-quarters of a syringeful used for adults), he omits entirely—as he has *invariably* omitted—to say how much of the veal-broth is used to mix with a given quantity of so-called rabic spinal cord. This quite material omission is accompanied by two opposite statements: one, that his method is "very simple and very practicable;" and the other, that "outside of M. Pasteur, and of his laboratory, there does not exist a single person in the world capable of undertaking the treatment with certainty of success (*sûreté*)."

This must prove a disappointing *dictum* to those well-meaning men in New York who so hopefully incorporated a *Pasteur Institute* on January 2d; although it cannot be considered too harsh a judgment of the men in St. Louis, who, on December 31, 1885, "perfected

arrangements for the treatment of hydrophobia after the method followed by M. Pasteur," announcing that "in three weeks, at the outside, patients may be treated."

It is very true, as Pasteur declared, on January 4th, to an American in Paris, that in this matter our countrymen "go too fast"—although it seems a pity that he should have applied this expression to the men of New York who so trustfully relied upon his help; while he cannot have known of those in St. Louis who proposed to imitate him by accomplishing in about two weeks what he says requires two years. For the credit of our country let us hope that Pasteur will never hear of some of the New York men, whose names appear in the *Herald*, who proposed to cultivate the "bacteria" of rabies in "glycerine and agar-agar jelly." If he does, he may wonder that our scientific men do not know that he has never found a bacterium in this disease, or that he has never said a word about cultivating his virus in glycerine or agar-agar jelly.

And now when we look back over the whole of M. Pasteur's work in connection with the subject of hydrophobia, how shall we judge it? The final impression is—to say the least—disappointing. In spite of the distinctness of his assertion and belief that he has solved the problem of the cure of hydrophobia, or of its prevention at any time before its outbreak, when we try to follow the steps by which he has reached this conclusion we find ourselves in bewilderment. We seem to be in a maze, travelling blindfolded, cheered here and there by his assurance that all will be well. At length he seems to say, "Look about you, we are safe!" But when we look about, the safety does not appear. The proofs of it are still nothing but his bare assertions. When we examine these we find they are in part contradictory of each other, while in part they contradict facts of which he does not seem to be aware. When we seek for evidence that he is familiar with the clinical manifestations of what is called hydrophobia, or with its history in past ages, we cannot find it. It does not appear anywhere that he has ever seen a case of this sort or ever studied the descriptions which others have given of it. The same is true in regard to the work of others who have studied hydrophobia experimentally. He seems to be ignorant of, or he wilfully ignores, the labors of his own countrymen, never mentioning one as if he had contributed anything of value to our knowledge of the subject, and being doubtless utterly unaware that any one outside of France has brought patience, perseverance, and skill to bear on the intricate problem.

The very outset of his work in the beginning of 1881 is marked by a positive announcement of a new microbe and a new disease, and an angry repudiation of the suggestion of Colin that control investigations and experiments would show that neither microbe nor disease was new.

This announcement, however, was soon shown to be erroneous in every part of it. He next adopts the ingenious (but mistaken) notion of Davaine, that the nervous system is the channel, and its centre the goal, of the virus of hydrophobia; for which appropriation of his ideas Davaine soon appeared in the lists against Pasteur and joined the number of those who have questioned his honesty as well as his ability.

A year and a half later, December 12, 1882, Pasteur claims to have discovered that the virus of hydrophobia has its principal seat in the brain, and that it there can be gathered in perfect purity and inoculated with absolute certainty, its effects being "prompt and sure." We have not time to discuss the theoretical objections to this assertion, which are very many; it is enough to point out that although Pasteur has repeated it many times, it has never been confirmed outside of his laboratory, and it stands opposed to the experiments of a much more candid experimenter, Galtier, of Lyons, and that it is not true of what happens even in Pasteur's own laboratory, for some of his animals recovered spontaneously (*Bull. de l'Acad. de Méd.*, 1883, p. 92).

He next announces the finding of the virus in the spinal cord, often in all parts of it. The evidence of this, as of the preceding assertion, rests upon Pasteur's opinion of what may be called rabies. This we have already seen to be elastic enough to cover almost any result of his experiments, and entirely too elastic to be trustworthy.

Fourteen months after this, Pasteur announced a new doctrine, viz., that when what he calls hydrophobic virus is introduced into the circulation it becomes "fixed" and multiplies, at first in the spinal cord, and that one part of the cord might contain the virus when the rest did not. This is, on its face, simply absurd; but it illustrates the boldness of Pasteur in filling up with an assertion a gap in his demonstrations. This very boldness has misled some who have followed with incautious and uncritical haste the rapid succession of brilliant discoveries announced by Pasteur. For example, when he passes smoothly over an admission that he has never discovered a microbe in his virus, that he is only "tempted to believe," in one of infinite smallness from the detection of certain *minute* granules, by which he claims to be able to distinguish a rabid brain from a healthy one, who pauses to reflect that, on the one hand, he has never demonstrated his skill in this mode of diagnosis; and, on the other hand, that such granules as he speaks of were described before he had thought of them, and are not peculiar to the brains of rabid animals at all?

Again, when Pasteur casually admits that he has never been able to cultivate or to isolate what he calls the virus of hydrophobia outside of the body, who calls attention to the relation of this admission to the fundamental principles of his own work in regard to anthrax and fowl-cholera? Again, who has lifted up a voice against the contradiction of these fundamental principles in Pasteur's assertion that he could produce the more grave and furious forms of hydrophobia on the sole condition of using a weaker virus, and less of it? And is it not new to-day, to ask how, if this be true, it can also be true that his so-called protective virus owes its protective character to a reduction in the *quantity* and not in the *quality* of the virulent material? or how this last statement can be believed at all?

The next theory announced by Pasteur was that inoculation of animals in series produced a fixed degree of virulence for each species; and for want of opportunity to experiment on man that monkeys could be considered a suitable substitute. This latter idea shows how Pasteur has been misled by the supposition that similarity of physical structure indicates a similarity in physiological nature—an error which has been admirably exposed (*apropos* of another matter) by M. Béchamp (*Bull. de l'Acad. de Méd.*, May 8, 1883).

In May, 1874, came Pasteur's announcement that by weakening his virus by transmission through monkeys, and by strengthening it by transmission through rabbits, he had obtained a virus which would prove protective in dogs, and the application of which would eradicate hydrophobia from the world. In regard to this claim I content myself with a single remark, viz., that in the two years which have elapsed since Pasteur made it, not a single dog has been made refractory to rabies outside of his laboratory; and that in his laboratory he has only succeeded in rendering "refractory," as he calls it, fifteen or sixteen out of twenty dogs!

The next and last announcement of Pasteur, made last October, was that he had devised a method to prevent the outbreak of hydrophobia after the bite of a mad dog. In this method we find him, without any explanation, dropping entirely the recent theory about monkeys as a part of the machinery for manipulating his virus, and passing by what he had declared to be a simpler mode of operating, viz., by intravenous inoculation, to take up hypodermic injection as the method of inoculating, pieces of spinal cord, rubbed up in an unstated quantity of veal-

broth as a virus, desiccation as a means of attenuation, with the astounding explanation that the protective character of his virus was due to a reduction in quantity and not in quality! It seems strange that Pasteur should not have noticed the mutual contradictions of different parts of this announcement; but it is still stranger that he should have failed to see the destructive inference to be drawn from the facts to which I have already alluded—that in his crucial test (in the case of the boy Meister) one-half of the inoculation afterward proved to contain no virus whatever!

Finally, we have Pasteur's positive announcement that his method would prove protective at any time before the outbreak of hydrophobia, even if one or two years had elapsed since the bite, which he stuck to until a case dying under his hands led him to reduce this long period at one sweep to thirty-five days, which was soon after cut down to about fifteen. How soon the short space of fifteen days may be reduced to fifteen minutes we may tremble to contemplate, in view of the rapid rate of reduction which has prevailed thus far.

One other point must not be overlooked in judging Pasteur's theories from a scientific standpoint, and that is, that he has utterly abandoned the only natural virus of hydrophobia, the only one which can be asserted to communicate the disorder from one animal to another—the saliva—and has used an artificial irritant, which probably has never produced rabies at all, but only a peculiar form of septic or simple inflammatory disease, of the significance of which his lack of medical education and experience make him unfit to judge, and which he has quite arbitrarily labelled hydrophobia!

The results of the application of Pasteur's method may be summed up as follows: One death under his hands, with a lame explanation; over a hundred persons to testify that his inoculations probably do no immediate harm; an almost equal number to illustrate the well-known advantage of having one's fears allayed—in all, no more than is credited to a host of nostrums. Besides which, the excitement it has aroused has brought about a senseless alarm in regard to dogs, and the killing of innumerable innocent and unfortunate animals to bear witness to the sharpening of men's fears and the dulling of their judgment.

In conclusion, then, I venture to express my opinion that Pasteur's so-called method of treating hydrophobia before the outbreak *does* appear to be founded upon untrustworthy experiments and unsound reasoning, and ought to be rejected and condemned, in the interests of humanity as well as of science.

But while I thus characterize this last work of M. Pasteur, let me not be misunderstood. Here, as in other theories and practices which he has presented to the world, there is much to criticise. Pasteur's arrogance, impatience of correction, ignorance or disparagement of what others have done; his secret methods, his hasty assumptions, his illogical conclusions—have made him many scientific and personal enemies. But, after all, Pasteur is the man who placed on a new and apparently secure basis our knowledge of the nature of ferments; who disproved the theory of spontaneous generation; who laid the foundation upon which rests the whole system of antiseptic surgery, for the establishment of which the name of Lister will be justly immortal. Such a man is Pasteur; and, whatever of error may seem to mar some of his best endeavors, and however the future may adjudicate their claims, he seems to me to deserve all the honor he has received for his unwearied labors, and his magnificent achievements in the cause of science.

His very achievements in the right direction, however, make any error on his part all the more dangerous to the cause of truth, and make it all the more the duty of thinking men to sift the evidence upon which he rests his extravagant claim of having discovered a means of preventing the outbreak of hydrophobia.

THE INTRA-CEREBRAL TRACTS.

Their Physiology, and Its Bearing Upon the Diagnosis of Lesions of the Centrum Semi-ovale.

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The diagnosis of lesions involving the mass of white substance lying beneath the cortex of the brain and above the level of the basal ganglia is involved in obscurity. Such authorities as Nothnagel,[1] Charcot,[2] and Strümpell[3] admit that few rules for guidance can be given, and at present there are no definite symptoms assigned to diseases of the centrum semi-ovale.

The subject of lesions of this part of the brain has an immediate practical bearing. In the journals of the past year are recorded several cases of operations upon the brain for the evacuation of cerebral abscesses, and the excision of tumors. This is, doubtless, but a beginning of a brilliant advance in the department of cerebral surgery soon to be made.

And the surgeon is here dependent upon the neurologist; for he will not cut down until he is told where to cut down. Now we know that tumors and abscesses—the legitimate field for operation—lie chiefly in the centrum semi-ovale. Hence the diagnosis of lesions in this part is to-day one of the most pressing and important questions in the field of neurology.

The natural manner of approaching a subject of this nature is to follow the inductive method, and, by a collection of cases in which an autopsy has demonstrated the existence of a lesion, to collate the common symptoms and thus arrive at the diagnostic conclusions. But while this method does afford a certain number of facts of importance, it is, as we shall see, by no means as satisfactory as in the case of cortical lesions, in the investigation of which it has given such brilliant results. For lesions of the centrum ovale are not very common, and, therefore, are not often suspected during life. An examination directed toward the symptoms which such lesions might cause is therefore frequently omitted, and hence facts are wanting in the recorded histories which would serve to establish a symptomatology of these diseases. There are many symptoms in every case which must be sought for by the examiner, as they are of a character to escape the notice of the patient. Disturbances of the temperature sense, of vasomotor activity, of the power of locating the position of certain muscles, or of the exact limitation of the visual field, are all instances in point. It is evident, therefore, that some of the symptoms of lesions in the centrum ovale may have escaped notice because they were not properly investigated. And it follows that we must ascertain the probable nature of those symptoms from other data than those furnished by the recorded cases.

It seems to have been a constant fact in the history of progress in clinical medicine that, just in proportion to our knowledge of the anatomy and physiology of a part, does our knowledge of the symptomatology of its diseases advance. To bring symptoms into connection with lesions is the aim of scientific investigation, and this has been done chiefly along the lines of anatomy and physiology.

Hence, in investigating lesions of the centrum ovale, we may turn from pathology to anatomy for the information needed to establish the symptoms of such forms of disease.

The anatomy of the centrum ovale can be studied to the best advantage upon torn brains, which have been properly hardened in alcohol. A dissection made in this manner with care enables one to establish the fact that this part of the brain is made up of fibres only, and to distinguish easily three sets of fibres passing through it.

[1] Nothnagel: Topische Diagnostik der Gehirnkrankheiten. 1879.
[2] Charcot: Revue de Médecine, 1883, Localisations cérébrales.
[3] Strümpell: Lehrbuch der Innerekrankheiten. 1884.

These three sets have been named the *projection*, *commissural*, and *association* systems of fibres.

The *projection* system includes those fibres which join a definite area of the cortex with parts of the nervous system lying below it. It therefore follows that but one termination of a projection fibre is found in the cortex, and hence the fibre, in passing through the centrum ovale, is either on its way to, or on its way from, some nervous mechanism in the basal ganglia, brain axis, or spinal cord. Indirectly, through the medium of such mechanisms the external world is projected upon the brain and reaches consciousness, and voluntary impulses originating in the brain are sent to and affect the external world. A dissection of the centrum ovale, prepared

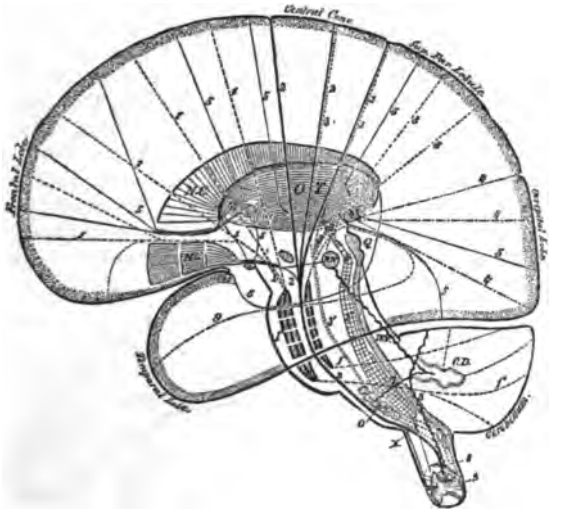

FIG. 1.—Projection Fibres in the Centrum Ovale and their Terminations. (Modified after Flechsig.) 1, Tract from frontal lobe to pons nuclei, thence to cerebellum; 2, motor tract from central convolutions through capsule, crus, pons and medulla to the cord through the decussation; 3, sensory tract from parietal lobe through capsule, tegmentum and medulla to posterior columns of cord; 3′, by way of the lemniscus; 3″, by way of formatio reticularis; 4, visual tract from occipital lobe to optic thalamus; 5, optic thalamus radiation to all the lobes; 9, auditory tract from temporal lobe to optic thalamus; O. T., optic thalamus; N. L., lenticular nucleus; N. C., caudate nucleus; R. N., red nucleus of tegmentum; O, olive; C. D., corpus dentatum; 7, tract between O. and C. D.; Q. Corp. quadrigem.

so as to show the projection system, demonstrates the existence of fibres from the entire cortex passing downward and gathering together within the hemisphere at the upper level of the basal ganglia, and either ending in the optic thalamus, or going on between these ganglia to the brain axis and spinal cord.

The majority of these fibres end in the optic thalamus, which is thus connected with all parts of the cortex of the brain (Fig. 1, 5). Of the function of these we know very little. Two large bundles, however, are separable rom the mass. One of these passes inward and forward, from the occipital lobe and joins the pulvinar of the thalamus and the external geniculate body (Fig. 1, 4). This is now known as the visual tract, and conveys impulses received from one-half of each retina by the optic thalamus to the like-named occipital lobe, as has been proven by recent articles on hemianopsia.[1] A second bundle passes from the temporal lobe inward to the thalamus and internal geniculate body, lying just beneath the first at its point of entrance into the thalamus (Fig. 1, 9). This conveys impulses of sound from both ears to each temporal lobe, as the investigations of Von Monakow, by the atrophy method, have shown.[2] These are the only bundles of the thalamic radiations whose function is determined.

Some of the projection fibres pass on without communicating with the basal ganglia, and of these we know three distinct bundles.

The first is collected from the three convolutions of the frontal lobe, and passing between the caudate and lenticular nuclei in the anterior division of the internal capsule, descends in it to the base of the brain, and issuing in the inner third of the foot of the crus cerebri, passes down to the pons, where it terminates in nuclei lying in the ventral half (Fig. 1, 1). The nuclei thus reached by these fibres are also joined by other fibres from both hemispheres of the cerebellum, which enter the pons at its lateral surfaces in the middle peduncles. Thus it is evident that a connection exists between each frontal lobe and both cerebellar hemispheres, the crossed connection being greater than the direct one. In Flechsig's case of deficient cerebellum, the pons nuclei and the fibres to them from the frontal lobe were found.[1] In my case of deficient cerebrum the pons nuclei and the fibres to them from the cerebellum were found.[2] Therefore each half of this tract, if it is a continuous tract, may develop independently of the other.

Of the function of this tract we know nothing, and of the functions of the frontal lobes and cerebellar hemispheres we know very little. Therefore we cannot as yet connect any symptoms with its destruction.

The second bundle of the projection system, passing out of the base through the middle third of the crus cerebri, comes from the posterior part of the third frontal convolution, the two central convolutions, and from the paracentral lobule. Its fibres collect at the middle portion of the upper surface of the internal capsule, those from the lower parts of the cortex passing straight inward, those from the upper parts curving outward and downward to pass around the side of the lateral ventricle. Thus within the centrum ovale these fibres, if looked at from in front, appear like the sticks of a fan, and like those sticks their relative position is altered in the point of junction, where those passing inward from the lowest part of the cortex lie in front of those which pass downward from its upper part (Fig. 1, 2). Thus in the capsule the order from before backward is, *first*, the fibres conveying speech impulses to the pons and medulla; *second*, the fibres conveying facial motor impulses to the pons; *third*, the fibres destined to the arm centres of the cord; *fourth*, the fibres transmitting impulses to the leg centres in the cord. The impulses to the muscles of the trunk may lie behind or in front of those to the leg, as this is not yet determined. The fact that they are only implicated in severe cases of hemiplegia, and not in all cases, would indicate that they occupy the place back of the tract to the leg.

This is the great motor tract, whose course through the anterior half of the posterior division of the capsule is well known, and which can be traced through the middle third of each crus, through the pons, and thence by way of the pyramids of the medulla to the crossed pyramidal and anterior median columns of the spinal cord. It is evident, however, that the concentration of this tract is much greater in the capsule than in the centrum ovale, where the individual fibres are scattered among the other systems and occupy but a small area from before backward. Lesions beneath the third frontal convolution of the left side produce motor aphasia. Lesions beneath the central convolutions in the centrum ovale produce paralysis, which will vary according to the position of the lesion. The nearer the lesion lies to the cortex the more will the symptoms resemble those of cortical disease, monoplegia being the rule. The nearer the lesion to the point of junction at the capsule the more will the symptoms resemble those of capsule lesion, hemiplegia being the rule. There are numerous cases recorded in support of this statement.[3]

The third set of fibres of the projection system includes those which lie just posterior to the motor tract, and which pass inward from the parietal convolutions (Fig. 1, 3). These take a similar course to those of the motor tract, and fill up to a considerable extent the space between it

[1] Starr: The Visual Area of the Brain, American Journal of the Medical Sciences, January, 1884. Seguin: Hemianopsia, Neurological Society Transactions. Medical News, November, 1885.
[2] Arch. f. Psych., xii.

[1] Flechsig: Plan des Mensch. Gehirns. Leipzig, 1884.
[2] Starr: Sensory Tract in Central Nervous System, Journal of Nervous and Mental Diseases, July, 1884.
[3] See Nothnagel: Topische Diagnostik. Wernicke: Lehrbuch der Gehirnkrankheiten.

and the radiation of the visual tract, toward the occipital lobe. They are mingled with fibres which pass to the optic thalamus, but are separable from them, as Edinger has shown in fœtal brains,[1] and may be traced down through the capsule to the tegmentum of the crus, where they divide into a portion going to the lemniscus, and a portion going to the formatio reticularis. This set of fibres conveys the sensations of touch, pain, temperature, and muscular sense,[2] and lesions in its course will cause disturbance of these sensations. Like lesions in the motor tract, the rule obtains that the nearer the cortex the more likely is the lesion to cause an affection of a single limb, while the nearer the capsule the more likely is the symptom produced to be hemianæsthesia.

Looking, then, at the dissection of the projection system of fibres, it is evident that a lesion which lies in the centrum ovale at any point posterior to the præcentral fissure of the frontal lobe, may produce recognizable symptoms, for it must affect either the motor, or the sensory, or the visual, or the auditory tracts, or individual fibres of those tracts. In the latter case it will be necessary to examine carefully for symptoms, as they may escape a superficial notice.

The second system of fibres in the centrum ovale is the *commissural* system. This joins corresponding areas of the two hemispheres with one another. The commissural fibres between the frontal, parietal, and occipital lobes of the two sides pass in the corpus callosum, the view of Hamilton, of Aberdeen, that these fibres are not commissural being disproved by the researches of Spitzka and Beevor.[3] Those from the temporal lobes pass in the anterior commissure. The function of these fibres is to harmonize the action of the two hemispheres. This may be proven with regard to the fibres which join the central convolutions with each other, and harmonize motor acts. Every one knows that simultaneous movements of like nature can be made with great facility with both upper extremities. An attempt to swing Indian clubs is more difficult if each hand is executing a different motion. So, too, movements which are difficult when attempted with the left hand alone become easy when associated with corresponding movements of the right hand—as, for example, drawing a circle, writing one's name. But the motion, in order to be associated by the commissural fibres, must involve the corresponding muscles on both sides of the body. Hence, if the right hand moves to the right the left must move to the left to a similar degree in order to bring into play the aid of commissural association. Hence, such writing with the left hand will be backward, and can only be read by the aid of a mirror. Now, it is a very simple thing to test this power of symmetrical movement in persons, but I venture to state that it is very rarely done; so that no clue is usually obtained as to the condition of conducting power in the commissural fibres in cases of brain disease. It is the commissural fibres joining the motor convolutions only which can be thus tested. Failure to perform easily corresponding bilateral motions in face, hands or feet would indicate some obstruction to conduction in them. With regard to the fibres lying in the anterior part of the corpus callosum and joining the frontal lobes, little can be said except that in numerous cases of idiocy these fibres have been wanting. The cases of McBride (*Amer. Jour. Neurol.*, May, 1884) and of Erb (*Virchow's Arch.*, Bd. 98) of lesion of the corpus callosum presented no peculiar local symptoms. Nor have we any power of testing the integrity of commissural fibres lying posterior to the motor tract, though a theoretical statement will not be objected to, that those between the occipital lobes are very important, inasmuch as each occipital lobe receives impulses from but one-half of each retina. Hence, integrity of both occipital lobes and simultaneous, connected, and harmonious action in both is necessary to the *perfect* perception of the *whole* of any object when the eyes are fixed upon one point of that object. The function of the anterior commissure is wholly unknown. Theoretically, a lesion of the commissural fibres should produce a lack of harmony in the simultaneous action of the two hemispheres, and if the lesion in the centrum ovale lay opposite to the two central convolutions this could be detected by appropriate tests.

The third system of fibres in the centrum ovale is the *association* system, and this requires a careful study.

It can be shown by careful dissection that each convolution is joined to the two adjacent convolutions by fibres which pass around the separating fissures. Also, that bundles of fibres exist which pass from each convolution to the convolution next but one, and so on. Hence, it may be stated that each convolution has a possible connection with every other. Besides this association of convolutions by small bundles of fibres, it is possible to find a distinct set of association tracts which pass between more or less distant regions. One such tract passes from the frontal lobe, collecting its bundles from all three convolutions, backward to the occipital lobe. Another tract joins the occipital with the anterior part of

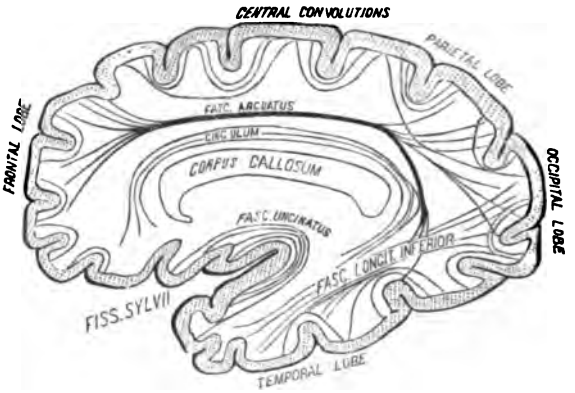

FIG. 2.—Association Fibres in the Centrum Ovale. (Modified after Edinger.) Fasc. arcuatus = fronto-occipital and fronto-temporal tracts; Fasc. uncinatus = temporo-frontal tract; Fasc. longit. inferior = occipito-temporal tract.

the temporal lobe. Another passes from the upper two temporal convolutions forward to the third frontal convolution, passing beneath the island of Reil. And a tract from the parietal to the posterior temporal area may also be found.

What can be the function of these association fibres? Without going very deeply into the subject of psychology, it may be suggested that they form the physical basis for the association of concrete memories.

Our concrete memories are reproductions of former rensations. But if the sensations are received in various saeas of the brain, as we must admit from the facts already stated regarding the function of the projection fibres, it is evident that the reproduced sensation which depends on the revival of the original sensation will occur in the same part of the brain in which the original sensation was received. A sight memory is located in a different part of the brain from a sound, or touch, or motor, or speech, or writing memory. And this fact will be readily admitted by those who have seen cases in which a single set of memories have been lost while others remain. The symptoms of word deafness, word blindness, aphasia, agraphia, alexia, are all symptoms dependent upon loss of a definite set of memories. And they are usually due to definite lesions of the cortex in different areas, which we are now able, by the aid of numerous autopsies, to specify. But no concrete memory can be said to exist without associations. The sight of a dog leads us at once to think of the form and appearance of other dogs, of animals resembling dogs, and of quadrupeds in general. Thus the impulse received in a memory area excites other memories of a *like* quality.

[1] Edinger: Vorlesungen über den Bau der Centralorgane des Nervensystems. Leipzig, 1885.

[2] See Exner: Untersuchungen über d. Localization der Functionen in d. Grosshirnrinde (Forty Cases with Autopsies). Starr: Sensory Tract, loc. cit. (Forty-two Cases with Autopsies).

[3] See Hamilton: Brain, July, 1885; Beevor: Brain, October, 1885; Spitzka, Amer. Jour. Neurol., August, 1884.

Further, the sight of a dog might easily lead us to think of his bark, or, if we had once felt it, of his bite; and that because originally the simultaneous occurrence of the sight and sound of the animal had associated the two memories forever. Thus an impulse received in a memory area may excite other memories of an *unlike* quality. In fact, any one of our concrete ideas may be said to be made up of a number of associated memory pictures, all of them united into a definite whole. My idea of an orange is made up of my memory of the appearance of the orange, its color and form, of the memory of its odor and taste, of the peculiar feeling of its surface, of the sound which I know as its name, of the motion necessary in my throat and lips to pronounce the word which designates it, and of the movements necessary to write the word orange. And further, each one of these memories is joined not only to the next, but also to all the others, for if you show me an orange and ask me to say or to think or to write its name, I can do either at *your* will, and need not say it before I write it, or taste it before I can call to mind its odor.

These facts of concrete memory gained by introspection show how intimate is the connection between our various kinds of memories, and demonstrate *à priori* the need of just such sets of association fibres in the brain as we have found by anatomical dissection. It may be stated, therefore, that the association fibres of the centrum ovale have as a function the harmonizing of the activities of the various cortical areas. They are necessary to the union of different memories in a whole, to the formation of a concrete idea. I do not now allude to abstract ideas, or to processes of reasoning. I have spoken only of concrete ideas, for it is only regarding these that our investigation of cases of localized brain disease will allow us to speak. But if these association fibres pass through the centrum ovale, it is evident that the integrity of the centrum ovale is necessary to their proper action, and that lesions of the centrum ovale will lead to a separation or failure of association of ideas and memories formerly joined. If the fibre is broken which joins my memory picture of a familiar face with my memory picture of the sound or name associated with that face, I cannot call the person by name on seeing him. If I have lost the power of copying a page that is placed before me and which I can see, it is possibly because I no longer associate the sight of a letter with the motion of my hand necessary to write that letter, an association originally made by practice. If I can understand what is said to me, and can pronounce words distinctly, but talk jargon or replace one word by another, it is because the fibres which join corresponding auditory and motor speech memories are unable to perform their function. A patient whom I saw recently was asked to name the four of spades, a card which I picked up from the table at which he had been playing whist. He said at once five of telephone, and was much put out at his mistake. These are instances of a defective conduction between the occipital and temporal, between the occipital and frontal, between the temporal and frontal areas, and we have already seen that it is just between these very areas that great association tracts extend.

It is evident, therefore, that we have not only a knowledge of the anatomy and physiology of the association fibres of the centrum ovale, but also a set of symptoms referable to their destruction. But here, again, it must be emphasized that careful examination of cases in a proper way is necessary in order to detect a lesion of such fibres. In the case of the fibres associating the auditory with the motor speech areas, the symptoms to be elicited seem very simple. Can the patient talk correctly? Can he repeat at once a word spoken to him? These are questions which any one will ask who examines a case of aphasia. But this is not all. The patient must be further questioned. Can he read understandingly to himself, and tell what he has read? This will test the occipito-temporal tract. Can he read aloud? This will test the occipito-temporo-frontal tract. Can he write what he sees? This will test his occipito-central tract. Can he write what he hears? This will test the temporo-central tract. Can he write what he says, speaking to himself in a whisper? This will test his fronto-central tract. Can he name an odor or a color? Brill has recorded[1] a case of lesion of the cuneus associated with color blindness to green, and he states that the patient had difficulty in naming various colors on account of the presence of a slight degree of amnesic aphasia. This aphasia was most marked in regard to names of colors, not in regard to contours, for he would compare colors to the tints of common objects. The aphasia was limited to the names of those colors which were imperfectly perceived—green and violet. Can the patient write the name of an odor? Can he tell how a surface feels—smooth, or warm, or heavy? Such questions as these will suggest themselves at once to any one who studies the association of ideas subjectively, or who will tear out the association fibres between the various areas of the brain cortex, and, knowing the function of the areas, consider the probable use of their association fibres.

It is evident, therefore, that a lesion of the centrum ovale may give rise to three sets of symptoms, referable to projection, commissural, and association fibres. The important fact at once appears that these symptoms will be inevitably associated in any case of its occurrence. It is upon the fact of such *association* of symptoms that the diagnosis of lesions of the centrum ovale must depend. Monoplegia alone may be caused by cortical or centrum ovale disease. Hemiplegia may be caused by capsular or centrum ovale disease. But if in either case it is the centrum ovale which is diseased, there will be in addition to the paralysis a suspension of action of commissural and association fibres. The commissural fibres being destroyed, simultaneous bilateral symmetrical motions will be suspended. The association fibres being destroyed, certain mental associations will be affected. Take as an example a lesion in the centrum ovale of the occipito-temporal region. Such a lesion will produce hemianopsia because it involves the visual tract of the projection system. It may also produce a peculiar mental condition known as word blindness, in which the patient is no longer able to associate a word or letter seen with its corresponding sound, or with the motion necessary to write it. Charcot has reported a case of this kind, and as I had an opportunity to see and examine the patient under his direction, I may be excused for mentioning it in detail. The man, who was a very intelligent merchant, was suddenly seized with right hemianopsia while playing billiards, and was surprised to find that he saw but one-half of the ball and of the table. Soon after he had occasion to write a letter, and after writing it was surprised to find that he could not read what he had just written. He found, however, that on tracing individual letters with the pen or fingers he became conscious of the letter—a few letters (r, s, t, x, y, z), however, being an exception to this rule. When a book was given him to read, he would trace out the forms of the letters with some rapidity and thus manage to make out the words. If his hands were put behind him and he was asked to read, he would still be observed to put his fingers in motion and to trace the letters in the air. Speech was in no way interfered with, but reading aloud was only accomplished like reading to himself by the aid of muscular sense. Here, then, was an example of a lesion which had separated entirely the tract associating sight with speech, viz., the occipito-temporal tract, but had left intact the tract associating sight with muscular sense, viz., the occipito-central tract.

The first tract, the occipito-temporal, lies side by side with the visual, and its implication in the lesion which caused the hemianopsia is not to be wondered at. The

[1] Amer. Journ. of Neurology, February, 1883.

second tract, the occipito-frontal, lies much higher in the centrum ovale and evidently escaped (see Fig. 2). Now, had this patient been an unintelligent laborer, seldom called upon to read or write, such a peculiar symptom might have escaped notice, and although it might have been discovered that he had alexia, the possibility of his being able to read by means of his muscular sense would only have been elicited by proper investigation. This case also illustrates a possible point of differential diagnosis between lesions of the centrum ovale and lesions of the cortex. If the lesion is in the cortex, some one of the cortical functions, *e.g.*, sight or motion, will be suspended together with their memories; while in lesion of the centrum ovale it is only the association of two or more memories which will be impaired. Is it not possible that in cases of word blindness the symptoms are due to such a break of the association tracts when sight and speech are preserved? Certainly, in the numerous cases of lesion found, the centrum ovale just beneath the cortex, at the posterior end of the Sylvian fissure, has been involved as well as this cortical area, and it is just in this portion of the centrum ovale that the occipito-temporal tract lies.[1]

Such a case as I have related you may say is rare. Are we sure of this? Can we say that in the majority of brain cases a thorough examination of the powers of association is made? And does not the anatomy and physiology of the centrum ovale lead us to believe that its lesions might produce just such symptoms or others somewhat similar? Is it not worth while, in all cases of obscure brain disease, to examine *all* the functions of which we have any knowledge, trusting to the future to explain peculiar symptoms which may be thus discovered? There is a psychological deduction which occurs naturally from the study of the case just related. The man could see the letter so as to be able to trace its form, and yet the sight alone conveyed to him no idea. We have already seen in studying the association fibres, that a concrete idea must be considered as a complex collection of memory pictures. Is it not evident from this case that a single one of these pictures isolated from the rest is incapable of awakening a concrete idea? The patient only obtained the idea when he put into action the motor memory, whose connections with sight and sound and speech were all intact. We have spoken only of concrete ideas. If we conceive of abstract ideas as made up of a numerous assemblage of concrete ideas, as they possibly may be, brought into consciousness as a single concept by the aid of the name or word, is it not probable that lesions of the centrum ovale will give rise to a confusion of abstract as well as of concrete ideas? And is it not possible that the symptoms of mental confusion of that peculiar kind which occurs in diseases of the frontal lobes of the brain, may be ascribed to a suspension of action of association and commissural fibres which pass in all directions through the frontal lobes? Many cases are on record of extensive disease of the frontal lobes in which the patients have presented mental symptoms, not those of any form of insanity, but rather of a form of mental hebetude or bewilderment; so that they act rather after the manner of mutilated animals—careless of the wants of nature—regardless of all restrictions of society, morality, and decency—being in a state in which mental inhibition and mental activity were impossible. These symptoms cannot be assigned wholly to disease of the frontal cortex, for in the majority of cases on record the centrum ovale was involved as well, and in not a few it was in the centrum ovale that the lesion was most extensive. These, then, may be found to be symptoms of lesion of the centrum ovale beneath the frontal lobes.

Nothnagel, in his great work, "Topische Diagnostik," has said that there are no diagnostic local symptoms of lesion of the centrum ovale. Such symptoms as headache, vertigo, vomiting, mental inactivity, and optic neuritis being general rather than local symptoms, and common to affections in any part of the brain, may of course be present in disease of the centrum ovale. It is not to these that reference is made, but rather to symptoms whose presence would lead inevitably to the diagnosis of disease below the cortex and above the basal ganglia. Nothnagel's assertion may be repeated to-day, notwithstanding the labor that has been expended since 1879 on the study of localized brain disease. It seems to me that the way to solve the problem here is to reason from anatomy and physiology to the probable results of lesion in the centrum ovale, and then in every case to examine for the symptoms which theoretically might occur. In that manner it will be evident that no latent symptoms will be overlooked, and it is not impossible that, after a time, so many new symptoms now unsuspected may be educed and brought into connection with lesions found by post-mortem examination, as to warrant the formulation of certain diagnostic signs of diseases of the centrum ovale. If the suggestions here offered regarding a possible symptomatology prove of service, my object will be attained.

[1] See Amidon's Collection of Cases. N. Y. Medical Journal, January, 1885.

SOME CONSIDERATIONS IN THE DIAGNOSIS AND PROGNOSIS OF ABDOMINAL ANEURISM.[1]

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It is no uncommon thing to find at the post-mortem examinations cases in which death has occurred as the result of aneurism, and the aneurism very small. On the other hand, it is quite frequently found that a patient has died of an aneurism, the history showing the existence of such aneurism for a number of years, and the size enormous.

It is not always easy to explain why some persons tolerate an aneurism for a long time and to a great size, while others succumb in a short time and when the tumor is very small.

In many cases the diagnosis of aneurism affecting one of the large vessels of the abdomen is one of the easiest problems the physician is called upon to solve. If the physical signs are well marked, and ordinary care is observed in the examination, the diagnosis is easily arrived at; but in many cases the physical signs are obscure, or at least are not distinct. As all will testify, a growth lying across a large vessel in the abdomen may give rise to symptoms and signs so like those of aneurism, that the most skilled diagnostician cannot determine positively their significance.

In 1878, while I was one of the attending physicians at the Demilt Dispensary, Dr. Lockrow, another of the attending physicians, referred to me for diagnosis a case of abdominal tumor. The case had been seen by a number of physicians, and a variety of opinions had been expressed. The patient was a man, forty-three years old, intemperate, and an excessive smoker. He denied syphilis. His occupation, as long as he was able to work, was that of a farm-laborer. In 1873 he noticed a growth in the epigastric region, at first very small, but it gradually increased in size until, when I saw him, it nearly filled the whole epigastric space, especially to the right of the median line. He gave the history of repeated attacks of severe pain in the epigastric region, accompanied by slight fever, and severe enough to cause him to remain in the house, and sometimes to remain in bed. There had been but little change in its size after 1876, that is, two years previous to the time I first saw him. The tumor seemed to be pulsating, at least there was rise and fall with each pulsation of the artery; it was very irregular in outline. It was very hard and firm to the touch, and seemed, both by palpation and percussion, to be continuous with the right lobe of the liver. It seemed like a solid mass, very irregular in outline, quite

[1] Read before the Practitioners' Society of New York, January 8, 1886.

painful to the touch. There was no thrill and no distinct expansile pulsation. There was, on auscultation, a simple systolic bruit. The pulsation in the lower extremities was not as forcible as one would expect in a healthy person, yet it could hardly be called feeble. There was no change in the position of the tumor when the patient was placed in the knee-chest position. After three careful examinations, and excluding as well as I could its connection with any of the viscera, liver, stomach, intestines, pancreas, or abdominal wall, I concluded it was an aneurism of the abdominal aorta. I had seen within a short time a few cases of both thoracic and abdominal aneurism at the autopsy room at Bellevue Hospital, in which there was very great thickening of the serous coverings as the result of pleuritis and peritonitis. In the cases of abdominal aneurisms the tumors were matted together with the surrounding viscera by the much thickened peritoneum. It occurred to me that the patient I was examining may have had frequent attacks of peritonitis, and the peritoneum becoming much thickened in some places over the tumor, and less so in others, thus accounting for the irregularity in outlines. By careful questioning the fact was elicited that two months before he noticed the tumor he was kicked in the abdomen by a colt, and was, at that time, confined to the house for two weeks, but had never connected the two—the kick and the tumor. The frequent attacks of pain and fever were probably due to peritonitis. He died about one year later. Dr. Lockrow made the autopsy. There was an aneurism just below the cœliac axis as large as a new-born child's head, very irregular in shape, very thick layers of peritoneum over it—in some places much thicker than in others. Where the peritoneum was thickest there was least enlargement. Where the peritoneal covering was least marked, the tumor had expanded much more, and in some places pouch-like expansions had formed, making great irregularity in outline observed during life. While the peritoneal thickening obscured the diagnosis it seemed to me it played a very important part in the prognosis. It will be noticed the patient lived six years after the first discovery of the growth. Is it not probable that this very thickening of the peritoneum and the strong adhesions aided in the protection against rupture? Will not this very protection made, by the thickening of the serous covering as the result of inflammations, account, in many cases of both thoracic and abdmonial aneurism, for the much greater tolerance shown by some than others? I am well aware there are many factors which enter into the prognosis in any given case of aneurism. One of the dangers is from rupture. If the serous covering becomes very much thickened and covers the whole tumor, thus protecting it from expanding because of its over-weakened walls, it would seem quite probable this one danger, rupture, is delayed, even in some cases very much delayed.

I have a patient now under observation at the Bellevue Hospital whose history, and to a certain extent whose physical signs, illustrate this point in prognosis. It is a female, aged twenty-seven, a cook. She was in good health up to five years ago. At that time she had some uterine disease which kept her in bed five weeks. After her recovery she noticed a "sore spot" in her abdomen, just above the umbilicus. The pain in this sore spot gradually increased, and soon she noticed a small tumor in this situation which pulsated. Four months after this she entered one of the city hospitals, with very severe pain, which confined her to her bed for some weeks. She remained in the hospital over a year. Upon leaving the hospital she was free from pain, and her general health was good, although the tumor had increased in size and still pulsated. Nine months afterward she had another attack of severe pain, which caused her to remain in bed three months. At the end of fifteen months she had another attack of severe pain in the epigastric region, and was confined to bed for over a month. She remained comparatively free from pain after this until January, 1885, when another attack of severe pain sent her into Bellevue Hospital, where she remained in bed three months. She left the hospital April 1st, but returned May 19th, with still another attack of severe pain, and is in the hospital now. During all this time the tumor was steadily increasing in size, and the pulsation has become more noticeable. She denies syphilis and intemperance. She does not remember to have received any injury to account for the tumor.

There is a large, irregular-shaped, pulsating tumor in the epigastrium, just above the umbilicus, and over a surface two and one-half inches by three inches very distinct pulsation can be seen and felt. The expansile pulsation, so characteristic of aneurism, can be felt over this surface, and nowhere else over the tumor. Over the remainder of the tumor the surface is somewhat irregular and quite firm to pressure. There is no thrill and no murmur. There is no change in the position of the tumor when the patient is turned to one side, nor when put in the knee-chest position. The repeated attacks of pain were probably due to peritonitis, and with each attack the peritoneal covering has become more thickened. Over the surface where the distinct pulsation can be seen and felt the peritoneal covering is probably quite thin.

CONTAGIOUS OPHTHALMIA IN INSTITUTIONS.

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CHAIRMAN OF COMMITTEE [1] ON CONTAGIOUS EYE DISEASE.

THE care and maintenance of dependent children is a duty which no community can disregard. Whether the beneficiaries have in the course of nature been deprived of their natural guardians, or whether in the struggle for existence, through lack of means for their support, they have been given up by their parents to others to care for, or whether, to save them from cruelty and neglect at the hands of those who should provide for them, the courts of law have interfered for their relief—whatever the history of the individual case may be, common humanity demands that a home or asylum should be provided for those helpless to look after themselves.

Either as objects of private charity or supported out of the public fund these children must be maintained. During the helpless years of child-life they must be housed, clothed, fed, and cared for in such a way that they shall become self-supporting. For the home or family life which has been denied them a substitute must be found. In every community the asylum or residential school for the care of dependent children has become a recognized necessity. In one way or another the support of such asylums falls upon the community in which they exist. Let us now consider what the duties of the city or State are in maintaining the charge of such children. That they may become self-supporting, and cease to be a burden upon the community in which they are to live, they must first of all be brought up with due regard to the laws of health, they must be trained to some useful pursuit that they may take their part in the battle of life. These propositions are so self-evident that it seems commonplace to insist upon them.

In an experience of many years as officer of one of the largest ophthalmic hospitals of the country, the writer has over and over again had children brought to him from some of our city institutions with their sight irreparably damaged, and with the sad statement, doubtless true, that before they were taken from their homes their eyes were perfectly sound. Annually in some of the asylums of the city and State of New York there are

[1] Committee appointed by the New York Academy of Medicine, June 23, 1885, consisting of Drs. C. R. Agnew, G. M. Smith, C. S. Bull, D. Webster, R. H. Derby, A. Jacobi (ex officio), E. L. Oatman, of Nyack; C. S. Merrill, of Albany; John J. Milhau, and Messrs. Arthur G. Sedgwick, Elbridge T Gerry and James Gallatin.

eyes lost, and children consigned to our blind asylums to be cared for their life long. Let us verify this last assertion before going any further.

Mr. William B. Wait, Superintendent of the New York Institution for the Blind, under date of January 27, 1886, writes as follows: "As we receive only those who are already practically blind, and as our work is strictly educational, and not curative, it is not essential for us to inquire into the cause or specific nature of the cases, or concerning the progress of the disease, or of the habitat where blindness supervened. I have, however, often had occasion to remark cases which have apparently originated in custodial institutions. It must sometimes happen that the committed children are suffering from eye disease when committed. An examination for a few years back gives the following result:

	Cases.
Randall's Island Nursery	11
Nursery and Child s Hospital, Staten Island	6
Roman Catholic Protectory	11
Foundling Asylum, 50 West Sixty-eighth Street	2
St. Joseph's Home, 65 East Eighty-first Street	2
House of Industry	2
Hebrew Guardian Society	1
Convent of Mercy, Newburg	1
St. Patrick's Asylum, Prince Street	1
Orphan Asylum connected with St. Peter's Hospital, Brooklyn	1
Dominican Sisters, Rockland County	1

"In one case the first eye was lost on Randall's Island and the second one at the Protectory; in another the first eye was lost at the House of Industry and the second one on Randall's Island. It is the duty of establishments which have the care of children to seek information and instruction on this subject, and to receive cheerfully, and enforce with care, such regulations as will prevent the inception and, when they do occur, the spread of eye diseases."

With a view to studying the conditions under which the dependent children of this great city are maintained, the asylums and residential schools have been visited. The local Board of Health has detailed medical inspectors for this purpose who have studied and reported on the construction of the institutions and the physical condition of the inmates, the method adopted for ventilating and heating the buildings, the plan and condition of the plumbing, the per capita allowance of air in dormitories and living-rooms, the construction of lavatories, the quality and quantity of food and clothing, the provision made for the treatment of contagious disease, and the care exercised in the reception into the institution of cases already afflicted with contagious disease; all these subjects have received careful attention, and the results of these investigations have been detailed in carefully prepared reports, an abstract of some of which accompany this preliminary statement and others are in process of preparation.

In connection with these inspections, conducted by sanitary experts, a committee appointed for this purpose by the New York Academy of Medicine has secured the services of men skilled in the treatment of diseases of the eye to accompany the inspectors of the Health Board, with a view to study the condition of the eyes of all inmates of these asylums. These ophthalmic surgeons, whose names are well known to the profession of the State and the country, have visited the fifty and more asylums of New York city and its vicinity. Drs. Agnew, Noyes, Loring, Roosa, Bull, Gruening, Pomeroy, Pooley, Callan, Andrews, Webster, Mittendorf, Emerson, Oppenheimer, Barker, Moore, Dennett, Isham, Lewis, Huntington, Hepburn, Carey, Bowles, and Ring have made careful investigations, and some of their reports accompany this brief informal statement.

These reports show, in the first place, the existence, in the asylums and residential schools which have been visited, of a disease of the eyes which can receive on the present occasion only a brief description. Contagious ophthalmia is characterized by an inflammation of the lining membrane of the eyelids, and a subsequent extension of the diseased process to the eye itself. From the parts affected there is a secretion, and this secretion is contagious. The secretion may be conveyed to healthy eyes by the water used in washing, by the towel or handkerchief, or even the air itself may be the bearer of the contagium. One peculiarity of the disease is that it may exist for months, and even years, in eyes which to the lay attendant, and even by the patient afflicted with it, have been thought to be perfectly healthy. In the case of some, if the subject is robust and the hygienic surroundings good, the eyes may escape without serious damage. In the case of many, after the disease has for a varying length of time been confined to the eyelids, it extends to the delicate structures of the eye itself, and the transparent cornea, or watch-glass covering of the pupil, becomes affected. The sight now is dimmed, ulceration or erosion of this membrane occurs, and, as a result, it is either permanently damaged or completely lost.

Of the dependent children cared for in the asylums of New York City, investigation has shown that one out of every four has contagious eye disease. It by no means follows that all institutions show so large a percentage of disease as this. As the reports will show, there are asylums where none or very few cases were found. There are, on the other hand, asylums in which more than half of the inmates have to-day eye disease of a very severe and dangerous type, and where, as the ophthalmic expert says, "it is a marvel to me that there is a healthy eye in the establishment" (report on St. Joseph's Asylum by Drs. Roosa and Ewing). The reports already received show many cases where one eye has been seriously injured, and many where the sight of both eyes has become permanently impaired.

Let us now see what light these reports throw upon the cause of this so generally prevalent eye disease, and what conclusions can be reached upon the proper methods to be adopted to stamp out so grave an evil. In the first place, as to the introduction of the disease from outside of the institution. Are the eyes of children and employees suffering from contagious ophthalmia examined before admission to the asylums? Let us examine our reports. Dr. Agnew tells us that in the Roman Catholic Orphan Asylum, at Madison Avenue and Fifty-first Street, the eyes of children are not examined before admission, and that the inmates of the institution who have diseased eyes are not quarantined. Dr. Roosa, who found in St. Joseph's Asylum 304 children, of a total number of 521, with diseased eyes, states that the eyes of the children are not examined before admission, and that no adequate quarantine is practised. Testimony of like character is furnished by many well-known authorities. Here, then, is a most prolific source of trouble, and to stamp out a disease so full of danger to the eyes of all housed in these institutions a rigid scrutiny of the condition of the eyes of all new-comers must be enforced.

Would it not be thought an evidence of criminal neglect if in an asylum provided for the young cases of scarlet fever, diphtheria, or small-pox were received and after reception allowed to come in contact with healthy children? What shall we say of the negligence of the board of management of an asylum which receives applicants suffering from contagious eye disease and provides a common dormitory, lavatory, and living-room for such cases, as well as those whose eyes are as yet healthy? Our reports give abundant evidence that such neglect as this is common. In many asylums all children who come, whether committed by the courts or brought by their guardians, are received by the non-medical attendants in charge of the institution. No medical examination of the applicant is made. The child, often suffering from disease acquired in its overcrowded, unhealthy tenement-house home, is assigned its bed in the already crowded dormitory. In common with other children, it is washed in the same lavatory, in which eigh-

teen children are provided with two or three towels per day (report of Drs. Loring and Stillwell). Have we not here at hand an explanation of the rapid spread of contagious ophthalmia?

It is not claimed that such a condition of things as this obtains in all asylums, but that the picture is not overdrawn we have the authority of Drs. Loring and Stillwell, Roosa and Ewing, Gruening, Callan, Andrews, and many others. How are evils such as we here recognize to be corrected? In the first place we hold that in each asylum and residential school of the State a medical officer should have discretion to receive or refuse to admit children. The responsibility for the sanitary condition of the building and of its inmates should properly rest with him. Each applicant for admission should be examined by such physician. No child suffering from contagious disease should be received. All children when received should be kept in quarantine for a reasonable period of time until it has been demonstrated that they are fit inmates of the asylum. More than this, it should be the duty of the medical officer to make frequent inspection of the institution and of all assembled there and report upon the same to the local Board of Health. This medical inspection should be thorough. First of all the dietary of the children should receive attention. Is the food-supply of the right character and sufficient? What do our reports say? In an asylum which shows perhaps the largest percentage of eye disease of any in the city Dr. Ewing tells us that in the nursery eighteen of the younger children had two quarts of milk per day—not two quarts each, but two quarts for the eighteen. We have the high authority of Dr. Agnew for saying that in one of the best-known asylums of the city the dietary is insufficient in both quantity and quality.

Again, the medical officer should examine the condition of the plumbing, sinks, water-closets, urinals, privies, and dormitories. That there is grave need for such inspection our reports give us abundant evidence. In the male branch of the Ladies' Deborah Nursery and Child's Protectory, Health Inspector Stillwell tells us, "the plumbing and lavatory accommodations are of the poorest kind. The urinal and school sink in the yard are dirty and offensive. In the cellar an abundance of rubbish, a dead cat, and a leaking Croton water-pipe saturating the earth surface with moisture. . . . The screw-cap of sewer-trap in cellar was off and gases freely escaping, also a drilled hole in the iron sewer-pipe adjoining this trap was open, allowing also an escape of gases. In the laundry (basement floor) the joint of tub waste-pipe with main waste-pipe was open, and the same condition occurred on the second and third floors, where within four feet of the children's beds the joints of sink waste-pipes were found open and the traps of said sinks unsealed by evaporation from disuse. . . . The lavatory accommodations are of the worst kind. In the extension on the first floor is a small room containing two bath-tubs, water is carried from here to the dormitories where the children wash in basins. In the nursery are eighteen children, to whom is allotted daily only three (and sometimes two) towels. On the beds one sheet was found, and in many instances this was dirty."

Again, in St. Joseph's Asylum Health Inspector Ewing reports: "The lavatories are very defective, being the trough and spigot plan, with a separate towel for each child, but the towels are hung in a row, with only four inches space between the towel-hooks, so that the towels themselves lie in contact."

In St. Joseph's Industrial Home, Dr. Stillwell reports: "Each child is given a towel daily, which, after use, is collected and dried without being washed, and oftentimes the same day is distributed to others."

In the New York Juvenile Asylum Dr. Stillwell states: "An objectionable feature of the plumbing work is that the water-closets and urinals thereto are in compartments that project into the general area of the dormitories. In some instances the urinals are poorly flushed, and the woodwork about them has become sufficiently impregnated with urine as to yield strong ammoniacal odors. . . . The boys' laboratory is supplied with running water and thirty-five roller towels daily for six hundred and fifty boys."

Especially should the medical officer examine and report as to the physical condition of the children and the existence of any contagious or infectious diseases, especially of the eyes or skin.

In St. Patrick's Orphan Asylum, female branch, Dr. Agnew found 203 cases of communicable eye disease among 409 children examined; of these 2 children had one eye and 22 both eyes seriously injured. In the male branch of the same institution, of the 357 inmates Dr. Noyes reports but 105 children with healthy eyes.

In the Ladies' Deborah Nursery Dr. Loring found, among 223 children, 50 suffering from contagious ophthalmia.

In St. Joseph's Asylum Dr. Roosa examined 521 children. He reports: "Contagious ophthalmia exists in all the classes of this Asylum. Its most severe form is seen among the younger children, although it exists among all. . . . No adequate quarantine is maintained in this asylum for those affected with contagious ophthalmia. Eight children had one eye seriously injured."

At the St. Joseph's Industrial Home Dr. Gruening reports: "I found 605 girls, ranging in age from three to sixteen years. Among these girls were 137 cases of chronic conjunctival blennorrhœa, making a percentage of 22.6 per cent. There were three children with one eye seriously injured, one with both."

In the Nursery and Child's Hospital Dr. Pomeroy reports: "Of the 461 children, 283 had perfect eyes and 178 had eyes more or less affected. Of the 64 adults, 14 had diseased eyes."

In the Mission of the Immaculate Virgin Dr. Pooley states: "Of the 372 boys examined, 127 were found with one or both eyes affected by contagious ophthalmia, making 34 + per cent. This number includes cases of all grades of the disease."

In the Catholic Protectory, of 2,137 children, Dr. Mittendorf found 871 afflicted with the disease, more than forty per cent. of the entire inmates. Dr. Mittendorf writes: "The cases were more frequent among the older inmates, and the longer a child remains at such a place the more liable it is to get the disease. . . . The principal cause is carelessness in admitting children that have diseased eyes and neglect to treat those that are diseased. Of the 871 children that I have examined and that ought to be treated, not one was properly attended to, nor were they isolated from the rest. The superintendent pretends to examine the children before they are admitted, but he must surely overlook many cases of granular lids, for three children were shown to me that had been admitted only a few days before I saw them, and they were afflicted with a most severe contagious form of granular lids; they were in the school-rooms and not isolated."

In the Five Points House of Industry Dr. Webster reports: "I found 155, or about 66.5 per cent. of the children affected with conjunctivitis in its various forms. . . . The worst cases, to the number of 26, were under treatment by the house physician in the eye wards." Dr. Webster found no evidence that the remaining 134 received any treatment whatever.

In the House of Refuge, at Randall's Island, Dr. Dennett found among 752 children 122 cases. He states: "The inmates wash thrice daily under running water, using about one hundred and twenty towels, which are changed every other day. Children with diseased eyes are admitted."

Dr. Andrews says of his examination of the Hebrew Sheltering Guardian Society: "The eyes of children are not examined before admission. Children with diseased

eyes are not quarantined. In the house at 360 East Fifty-seventh Street, are 76 children, 17 of whom have contagious eye disease. But there are really only 35 healthy eyes in the house; the remaining 24 children furnishing evidence in their eyes of the result of overcrowding and lack of proper breathing-space. Among 34 children there are but twelve towels, which are changed three times weekly.

"At No. 320 East Fifty-seventh Street, which is a branch of the above-named institution, is a small, badly ventilated house; three children use the same towel, and ten children bathe in the same water. Here there are 52 children and 35 cases of contagious eye disease. There are also cases of contagious scalp disease (favus) among these children, who use the same hair-brush as the healthy children do.

"The percentage of contagious eye disease is most conspicuous in these two buildings, and while the floors and bedding are all that can be desired, and the people in charge seem to aim at making the children in their care comfortable and healthy; owing to their ignorance of the simplest rules of domestic and personal hygiene, they neutralize the good done in one direction by neglect in another. For instance, the rooms and bedding are clean and the food good, but the ventilation is very poor, and children with healthy eyes and others with diseased eyes play together, use the same towel, and wash in the same water. In conclusion, I desire to emphasize the circumstance that *these children go to public schools*. The evil attending this regulation, I need hardly state, is a very great one and must be self-evident." In a branch of this same institution at Eighty-seventh Street and Avenue A, Dr. Andrews found among 182 children 42 cases. He writes: "In this institution the children with healthy eyes mingle with those who have diseased eyes. When eye troubles become serious they are quarantined. But the majority of the cases of contagious eye disease in this and kindred institutions show no signs of eye trouble to a casual observer, and the disease is evident only when the eyelids are everted. And so such cases pass unnoticed, and spread the disease among the children, both in the institution of which they are inmates and in the public schools which they are permitted to attend."

The perils resulting from a neglect to quarantine cases of contagious disease occurring among the inmates of one of these asylums is well illustrated in Dr. Oatman's report on Mount St. Agatha, at Nanuet. In it he says: "Only three working sisters were in charge. Instead of limiting the number of children to forty, over one hundred, or all that could be secured, were taken. No physician was employed, but the writer visited the asylum weekly or oftener. Of the children admitted two only suffered from conjunctivitis. These were cases of chronic granular lids. The majority of these children were under four years of age, and during the entire winter and spring they were kept huddled together in the lavatory and passage leading to the water-closets. This was kept at a temperature of at least ninety degrees most of the time. The children never enjoyed out-of-door exercise. As the winter advanced cases of mild conjunctivitis appeared. These cases were taken to an old farm-house on the premises, as was any other case of sickness that developed; but no systematic quarantine or treatment was practised. Advice was resented and warnings of approaching danger laughed at. Dr. Agnew visited the place in May, 1885, and gave earnest advice in regard to the isolation of certain cases. This was unheeded. About this time I discovered in the old farm-house a case of malignant diphtheria among the children. I pronounced it such and gave most positive directions, but the managers deciding that it was mumps, did not pay any particular attention to it. Within one week ten children died from diphtheria. Two weeks later I visited the asylum and found thirty-two children in bed with fully developed purulent conjunctivitis. At this time I was employed to treat the disease. During the summer of 1885 I treated fifty-six cases of violent purulent conjunctivitis. Although several had a membranous form of the disease, one only had positively the diphtheritic form. This was fortunate, as diphtheria was at this time epidemic in the asylum. Several cases had, as is usual in such epidemics, been sent to Randall's Island for treatment. Two of these have since returned, each with one eye totally destroyed. Among those treated at Nanuet one eye was entirely lost. Two others suffered perforation of the cornea with resulting opacities. These accidents all occurred at one time, during the latter part of the epidemic."

After this sad story of neglect and culpable ignorance on the part of the board of management, let us see what careful management and the application of certain well-understood rules of preventive medicine can accomplish in dealing with contagious disease. In Dr. Emerson's report of the Sheltering Arms it will be seen that among 147 children 10 cases of conjunctival disease were found. Of the earlier history of this same institution, Dr. Pooley, its ophthalmic surgeon, writes: "The following account of an outbreak of contagious ophthalmia, which occurred in this institution, the measures resorted to to stamp it out and to prevent its return, I am enabled to give from my own and the matron's recollection of the facts. It began in October, 1872, soon after the admission of a girl with chronic trachoma, who shortly after her admission had an acute exacerbation of a purulent type. In a very short time there were 12 bad cases of purulent ophthalmia. Soon after this I was asked by the trustees to visit the institution, and found at least twenty cases of blennorrhœa of a severe form and nearly one hundred of a milder type. For several months I visited the institution as often as twice or three times a week, treating all the cases, and isolating the worst of them in a small building which was put at my disposition for this purpose. The disease lasted for ten months or more, and finally it became necessary to dismiss three or four cases, which were treated daily in the Dispensary of the Ophthalmic Institute in Twelfth Street. We were now comparatively free from the scourge, and from this time forth the following precautions have been rigidly observed:

"1. I examine the eyes of all children before admission, and none can enter without my certificate.

"2. If any child shows the least symptoms of eye disease we isolate him and treat him.

"3. We teach nurses and children to *watch* for it, and it is an unpardonable crime to use a towel, pillow-case, or handkerchief that belongs to any other child.

"4. I make it a point to visit the institution as often as I can, and to inspect the eyes of all the inmates, and Miss Richmond sends all suspicious cases to me for inspection.

"The cases mentioned in this report as at present in the institution are all receiving my attention."

Up to the present date, February 2d, returns have been received from 32 asylums, containing 10,264 inmates; of these, 3,322 had contagious ophthalmia, making 32 + per cent.

Our reports further show that many of the asylums are overcrowded. There are institutions where, in the dormitories, there is for each child less than one hundred cubic feet of air-space.

To meet the exigencies of the case the committee on contagious eye-diseases is satisfied that legislation is needed, and to that end "an act for the better preservation of the health of children in institutions" has been drawn up.

The proposed act provides that every incorporated institution in the State receiving or caring for children (excepting hospitals) shall have attached thereto a regular physician in good professional standing, who shall carefully examine each child applying for admission to the institution, and shall give a certificate in writing, stating whether or not the applicant is suffering from any contagious or infectious disease, especially of the eyes or skin. No child suffering from any contagious or infectious

disease shall be allowed to enter or remain in any institution in contact with children not so affected, but shall be immediately isolated, or placed in a proper room or infirmary, which shall be provided for that purpose. It is made the duty of the physician to give notice in writing to the officers of the institution whenever any dormitory therein is so overcrowded that there shall be afforded less than six hundred cubic feet of air to each occupant. He is also to report regularly to the local Board of Health in regard to the sanitary condition of the premises.

Progress of Medical Science.

HABITUAL ABORTION AND KIDNEY DISEASE.—Dr. Fehling, some months before his death, read a paper on habitual death of the embryo in kidney disease. In the first case under his observation premature expulsion of a dead fœtus occurred six times, and there was no evidence of syphilis. At every pregnancy anasarca, albuminuria, and death of the fœtus, with severe cramp of the abdominal muscles, occurred between the fifth and sixth months; the dead fœtus was expelled from three to ten weeks later. In the second case similar symptoms appeared in a young unipara; the fœtus died, and thereupon the albuminuria abated. In the third case the patient had borne two healthy children. During her third pregnancy albuminuria and characteristic changes in the retina occurred, and during the fourth she was seized with hemiplegia; in both a decomposed fœtus was expelled at the fifth month, with subsequent decrease of the albuminuria. In the fourth case the patient, in her first pregnancy, aborted at the fifth month; then she gave birth at term to a recently dead child. In the third pregnancy great œdema and albuminuria supervened, the child was still-born, and the mother died of uræmia. Dr. Fehling believed that, in all these cases, kidney disease existed before pregnancy, which aggravated the renal symptoms. Winter had described two cases of premature detachment of the placenta, normally situated, where albuminuria existed. Dr. Fehling found atrophy of the villi of the chorion, with wedge-shaped or spherical infarcts in the placenta, in his cases, similar to renal infarcts. The infiltration of the chorionic villi and vessels of the umbilical cord with small cells, as seen in syphilis, was absent, nor did any of the embryo exhibit a trace of congenital syphilis.—*British Medical Journal*, November 21, 1885.

OX-GALL IN TYPHOID FEVER.—Dr. Samuel Lloyd reports that since the publication of the paper on "Ox-gall in Typhoid Fever," in the first number of this journal, he has had an opportunity of personally observing its action, and has found that the results obtained were similar to those claimed by Dr. Van Schaick. The temperature in his case, before the administration of the ox-gall, was ranging above 105, but after the exhibition of the drug it was successfully kept below 102, while all the symptoms gradually assumed a milder form. The preparation used was the Fel bovis inspissatum, which was administered in capsules of five grains each every two hours, unless an exacerbation occurred, when it was given more frequently. The taurocholate of soda was substituted at one time, but its action was very unsatisfactory, and a persistent increase in the diarrhœa and range of the temperature compelled a return to the former preparation.—*Quarterly Bulletin of the New York Post-Graduate Medical School.*

ABOLITION OF THE PATELLAR TENDON REFLEX IN DIPHTHERIA.—The following are the conclusions of M. Bernhardt in an interesting paper on this subject appearing in *Virchow's Archiv:* 1. In a large number of diphtheritic affections there is observed an abolition of the patellar tendon reflex coming on some weeks after the attack, even in mild cases and in those which have been followed by no other paralytic symptoms. 2. The appearance of this sign some five weeks, more or less, after an attack of diphtheria should make the physician cautious in his prognosis concerning paralysis. 3. The absence of the patellar reflex may continue for five or six months and more, and in some instances the author was unable to assure himself of the return of the phenomenon to its normal degree. 4. Bernhardt admits that this symptom may be due to some nervous lesion of parasitic nature, and concludes by comparing the loss of the reflex occurring after diphtheria with the same sign when found in the initial stages of locomotor ataxia.

SALICYLATE OF LITHIA IN RHEUMATISM.—In a paper read before the Academy of Medicine of Paris, on December 8, 1885, M. Vulpian gave the results of a number of experiments with salicylate of lithia, which he had found to be of great service in the treatment of all the forms of rheumatism. He said it was a mistake to suppose that the salts of lithia possessed any remarkable toxic properties: they were no more so than the corresponding salts of other bases, and the salicylate could be given in nearly as large doses as the salicylate of soda. In cases of acute rheumatism, joint pains, sometimes of very severe character, often persist for a long time after the swelling of the articulations has subsided. Salicylate of soda as well as tincture of colchicum have but little effect in quieting these pains, but salicylate of lithia, M. Vulpian said, causes their rapid disappearance. The drug acts especially well in those cases in which the fibrous tissues are affected. In the subacute and chronic forms also salicylate of lithia acts more promptly than the sodium salt. The drug should be given in doses aggregating one drachm per diem, but when more than seventy-five grains a day are given, toxic symptoms are apt to be produced. It causes headache and deafness, but never the whistling and ringing sounds in the ears which cause such extreme annoyance to the patient. Sometimes also, though rarely, intestinal colic and diarrhœa result. But all these unpleasant symptoms disappear quickly after the discontinuance of the remedy.

IODOL, A SUBSTITUTE FOR IODOFORM.—Iodol ($C_4 I_4 NH$) is the name that has been given to a new antiseptic recently introduced into use in surgery. It is described as being tetra-iodo-pyrrol, and is said to be prepared from pyrrol, obtained from animal oil, and made moderately pure, by precipitating it with a solution of iodide of potassium containing iodine. In appearance it is a light-brown powder, which under a lens is easily seen to be crystalline. It has a faint odor resembling thymol, but no taste. It is nearly insoluble in water, soluble in hot fixed oils, in three parts of alcohol, and freely in ether and chloroform. It is not precipitated by glycerine from the alcoholic solution. At 212° F. it gives off the vapor of iodine. The great advantages claimed for it are that it contains ninety per cent. of iodine, and has not the disagreeable persistent odor of iodoform. More than two hundred observations on various diseases have been made with it in the Royal Surgical Institute in Rome. It was used suspended in glycerine, dissolved in alcohol and glycerine, and as an ointment. Chancres were washed with water, dried, and then sprinkled with iodol powder and covered with silk-protective, the dressing being changed daily. In six days' time the base of the chancre began to granulate, and the edges to show signs of commencing cicatrization. Under like treatment open buboes soon improved and healed up. With single indolent ulcers it proved equally valuable. On the other hand, the remedy is found useless, and indeed harmful, in gangrene. Further, it is found to possess the power in a high degree of promoting healthy granulations, as is shown by its use in various forms of lupus and in chronic fungoid inflammation of the joints.

OXYGEN has been found, by Prof. Laschkewitch, to be of benefit in hysteric and hystero-epileptic attacks. He thinks that it lessens nervous excitability.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 13, 1886.

CONTAGIOUS OPHTHALMIA.

THE article by Dr. Derby, published in our columns this week, is virtually a review of the investigations made this winter by the Committee on Contagious Eye-disease appointed by the New York Academy of Medicine. This committee, consisting of well-known members of the Academy and representatives of the Society for the Prevention of Cruelty to Children, the State Board of Charities, the State Charities Aid Association, and the Society for Improving the Condition of the Poor, have caused all the asylums for the care of children in New York City and its vicinity to be visited. Together with inspectors detailed by the Board of Health, well-known ophthalmic surgeons have examined the eyes of the children and studied the causes of the alarmingly prevalent contagious eye-disease. Among the many startling facts elicited by these investigations none is more significant and full of meaning than this: That a group of thirty-nine children are to-day in the New York Institution for the Blind, who, during the past few years have been sent there from some of our best-known and most generously supported asylums. Children between the ages of six and sixteen are very unlikely to suffer from non-contagious eye-diseases entailing blindness, and blindness in children is very rarely the result of contagious disease which has received proper care and treatment. These children, wards of the city and State, were placed in the several asylums to be brought up with healthy bodies and taught some useful trade, that they might become self-supporting—to-day they are blind charges of the State. The report to which we have referred points out in language that cannot be mistaken that these blind children lost their sight through neglect of the simplest rules of hygiene and health on the part of those who should have cared for them. By the testimony of many competent witnesses the report shows that in many asylums of this city children with contagious eye-disease are received, and that the healthy eyes of children already there thus speedily become affected. The report shows gross carelessness in allowing healthy and diseased children to use the same roller-towel and wash in the same water. It shows an absence of any proper system of quarantine of children who are manifestly the bearers of contagium. It shows an entire laxity of medical care in providing healthful dwelling-places or proper treatment where it is sorely needed. To meet these and other evils the committee has prepared a bill for "The Better Preservation of the Health of Children in Institutions," and has secured the introduction of the same in the Legislature at Albany. This bill throws the responsibility for the medical management of the asylum upon its medical officer, and provides that he shall make frequent inspection of the institution and of its inmates, and report upon the same to the Board of Health. The bill provides that no child with diseased eyes or other contagious disease shall be admitted, and calls for an efficient quarantine of all children in the asylum who may become affected with contagious disease. It declares a neglect to carry out these provisions of the bill to be a misdemeanor. This is eminently wise legislation, and is going none too far. THE RECORD has already on other occasions urged the great importance of adopting stringent rules and regulations at our asylums to protect the inmates against a disease which entails so often such disastrous consequences.

"INSTINCT AS A GUIDE TO HEALTH."

AN interesting article with the above title appears in the February number of the *Popular Science Monthly*, from the pen of Dr. Felix Oswald. He briefly sketches the hygienic advances which have been made in the last two hundred years, and attributes them, as well as educational and social reforms, to a "restored trust in the competence of our natural instincts;" in other words, "many of the hygienic reforms of the last two hundred years could have been anticipated by the simple teachings of our senses." Many of the evil manifestations of our natures—the moral depravity of the theologians—are to be regarded not as the remains of "old Adam," but rather as the expression of abnormal appetites artificially acquired.

Hence, then, true instinct is to be regarded as the guide toward right physiological living. The "ward of instinct," says Dr. Oswald, does not need a temperance lecture to counsel him to shun alcoholic beverages; the repugnance of nature to such ingesta is unmistakably expressed, and it is only by repeated trampling upon her advice thus expressed that the repugnance is overcome and transformed into an actual longing. The natural movements of the developing child are a greater proof of the necessity of exercise and a more convincing demonstration of its utility than any labored argument to show that exercise is beneficial.

What, then, has interfered with the establishment of that hygienic Utopia toward which true instinct would long since have led? The answer is, a perversion of instinct, a nursing of unnatural appetites. "In some exceptional cases," says Dr. Oswald, "nature fails to advise us of perils which her warning could easily avert," and he groups these exceptions under the headings of perverted instincts, abnormal perils, and parasitic disorders. The perversion of instinct is often of obscure origin, and when exercised in regard to the ingestion of any poisonous substance may become "vehement and persistent in proportion to the virulence of the poison." Persistent disregard of instinct will often bring about this result. As between instinct and perversion thereof, it becomes a contest for the survival of the fittest, and finally nature gives up the struggle.

In regard to abnormal perils, "the foresight of instinct" seems to be deceived "in a way typified in the non-repulsiveness of certain mineral poisons. Nature has taken ample precautions to secure her creatures against the poisons of the upper world—hemlock, foxglove, belladonna—but failed to provide safeguards against such subterranean evils as arsenic."

The existence of parasitic disorders seems to go against the theory of the healing instincts of nature. But the cause of these disorders is generally plainly visible, and can be directly removed, whereas the causes of other ("symptomatic") diseases "is often aggravated by the suppression of its external manifestations."

One notable exception is mentioned, apparently in opposition to the conservatism of Nature. It is the fact that at certain stages of pulmonary phthisis the sexual instinct is stimulated to a degree hardly compatible with the best result to the organism. Salacious manifestations at the late stage of phthisis are by no means uncommon. Here we are told this tendency comes only in a late and hopeless stage of the disease, when "nature sacrifices the interests of the individual to those of the species." In such cases as these instinct would not be a true guide. Yet, on the whole, it is to be trusted. The rejection of food by the overloaded stomach, the yielding of the tired body to sleep, the unrest characteristic of lung diseases—and relieved by fresh air—all these, and many others, show how truly the instinct indicates the successful plan of treatment. We are not to believe that "our protective instincts at the most critical moments become false to their mission, and urgently warn us against the means of salvation."

COMFORTS FOR MEDICAL MEN.

It is quite possible that medical men, who above any other professional class are subject to exposures and all the discomforts and dangers attending, do not provide as much as they might for their own comfort and safety. Medical fashions and habits control the physician to such a degree that he is liable to slip into the routine of his fathers, without thinking whether it might not be possible to effect improvements and alleviations in his lot.

For example, it is, we believe, quite unheard of for the rural physician ever to travel in anything but an open wagon, or the regulation doctor's gig. This latter affords some protection from storm and wind, but not a very great deal, and the main reason for its universal use is that it is light, and can be propelled at less expense to the horse. In England, broughams and hansoms are very much employed, even outside the cities. These of course require a driver, but there are many physicians for whom it would be an economy to avoid the risks and hardship of winter exposure by hiring an extra servant.

But even the doctor who must use the gig can often make it a more agreeable and comfortable vehicle than is now the case.

Mr. T. Pridgin Teale, who has been discussing this subject in *The Lancet*, writes:

"A medical man who visits his patients in an open gig or carriage, whenever he enters a house, leaves a warm seat, and on returning in ten or fifteen minutes finds the cushion and rug cold. By the time he reaches the next house the seat and rug are warm again, and out he gets, to let them cool down before his return; in other words, he is perpetually parting with bodily heat, which in severe weather he can ill spare, and is warming up, to very little useful purpose, inanimate material. This may be obviated by having either a hot-water bottle (of stoneware, not of metal), or one of the still more convenient india-rubber hot-water bags with a woollen cover. On his entering a house the warmer is placed on a cushion and is covered by his rug; it is placed at his feet when he returns to his carriage. If he drives in a brougham, or in a carriage in which the driver is not at his side, it is better that the hot-water bottle should be pushed to one side, or kept on the seat, protected by the rug."

Mr. Teale makes another suggestion, viz., that medical men who are liable to be called up in the night should always have a fire in their bed-room. We think that this is perhaps an unnecessary hint to the American doctor, who is not accustomed to sleep in a fireless room with the temperature thirty degrees below zero.

In driving in the cold it is very soon learned that the first essential to comfort is to keep the feet and the wrists and hands warm. This does not appear to have been learned by our English brethren, who doubtless do not often have such instructive temperatures as are experienced upon this side of the water.

THE LATE DR. ALFRED C. POST.

Few men ever leave such a record of untiring and conscientious industry in their profession as did the late Dr. Post. His professional activity covered a period of two generations, and when he died he had outlived all his early contemporaries. Dr. Post was remarkable for his activity and professional enthusiasm even to within a fortnight of his death. He carried on his surgical practice, performed operations, attended societies, discussed and wrote upon the living topics of the day, with all the freshness and zeal of youth. Age, he would say, is not a matter of years.

Dr. Post's most salient and admirable moral trait was his rigid sense of duty. To this he was always faithful, at no matter what sacrifice. He was a man of firm religious faith, devout in his behavior, and an excellent theologian and biblical scholar. The two things, he is reported to have said, which he enjoyed most were a surgical operation and a prayer-meeting. This at least expressed the two leading motives in his life: devotion to his profession and to the Christian faith. The example which he set, of a man who lived a thoroughly earnest, unselfish, and useful life, cannot fail to leave a beneficent influence which will last long after the tireless worker himself has gone.

THE QUESTION OF THE EXISTENCE OF "NEURASTHENIA."

Sir Andrew Clark has recently made some observations upon so-called "neurasthenia" which are not in the least novel, but which, coming from so eminent a physician, will attract attention. Sir Andrew states that the term neurasthenia has, despite just opposition, won its way into medical nosology, and now receives notice at the hands

of nearly all systematic writers on general or neurological medicine. This condition of affairs he regards as unfortunate, since the word neurasthenia is applied to a mob of heterogeneous symptoms, and does not represent to the mind any distinct clinical entity, nor have for its basis any uniform pathological change.

Sir Andrew Clark appears to believe that there is such a thing as nervous exhaustion or asthenia, but he does not find that the symptoms resulting from it have as yet been clearly recognized, or explicitly described and circumscribed.

There is no question as to the truth of the view which the distinguished physician takes. We, in America, who can, perhaps, best appreciate the evils which are referred to, have long ago recognized them. There is, beyond any question, a functional nerve-disorder which can only be designated as chronic nervous asthenia, since both the causation and the symptoms point to a dynamic weakness of the nerve-centres. But, unfortunately, these states of functional asthenia run so closely into those of degeneration and irritation, that the establishment and separation of the neuro-asthenic group of symptoms have been attended with difficulty and confusion. The late Dr. Beard greatly overloaded his subject, and Professor Arndt, of Vienna, who has just written an elaborate treatise on neurasthenia, has fallen into the same error. The latter, like Sir Andrew Clark, seems to think that all the neurotic people in the world's history, from Julius Cæsar to the poet Heine, may be classed among neurasthenics.

We understand that the more careful neurologists in this country find that there is a group of symptoms very characteristic and well defined, to which no better name than neurasthenia can be given. Therefore the term is still used, and it is increasingly prevalent.

THE DEATH OF GENERAL HANCOCK.

With the sad announcement of the death of General Hancock comes the somewhat startling statement that the disease, diabetes, from which he died, was only recognized a few days before his death.

While this latter statement may not be true, and we trust it is not, the case will, at any rate, serve to enforce the lesson of a more thorough examination of the urine in all chronic cases that come to the physician's care. We fear that there is too great a tendency among many busy practitioners to be content with a squeeze of the pulse, a glance at the tongue, and a few raps on the chest. The examination of the urine should be made a routine practice in all cases.

The Mississippi Valley Medical Monthly.—When a local medical journal and a local medical college fall out, the results are likely to be unpleasant for the latter. The *Mississippi Valley Medical Monthly*, which is ably edited by Professor F. L. Sim, has opened its controversial fires upon the Memphis Hospital Medical College. The sympathies of the on-lookers, on general principles, must be with the journal in such cases, since local medical journals are helpful to the profession, while local medical colleges are sometimes so, but not always.

News of the Week.

Cocaine is now only threepence a grain in England.

The Journal of Cutaneous and Venereal Diseases is now edited by Dr. Prince A. Morrow.

Dr. Paul F. Mundé gave a brilliant reception to the members of the New York Polyclinic on Thursday evening of this week.

The Cost of Small-pox to Tennessee during the past five years is estimated by the State Board of Health to be $141,619.91.

The Only Daily Medical Journal in the world is, we learn, *La Riforma Medica*, published in Naples by Professor Cav. Gaetano Rummo, and now in the second year of its existence.

Virginia has not over fifteen homœopathic physicians in the whole limits of the State. Yet a bill has been introduced into the Legislature to create a Homœopathic Board of Medical Examiners.

A Bill to Regulate the Practice of Medicine in the State of Maryland will be presented to the Legislature during its present session by a committee appointed by the Medical and Chirurgical Faculty of Maryland.

The Madstone.—A correspondent asks if there is anything in the "madstone" as a preventive of hydrophobia.—No, but it may be an excellent remedy for hysterics, following the bites of dogs. The madstone is a form of faith cure.

Portrait of Dr. John C. Dalton.—By invitation of a very large number of his friends and former pupils Professor John C. Dalton is to sit for a portrait, to be painted by Eastman Johnson, and subsequently presented to the College of Physicians and Surgeons.

Reducing the Income of the Health Officer.—A bill has been introduced into the Senate at Albany fixing the fees of the health officer of this port at $10,000 a year, with $3,000 for the first assistant, $2,000 for the second assistant, and $6,000 for the expenses of administration.

A Commission to Investigate the Question of the Prophylactic Inoculations against Yellow Fever.—Dr. Joseph Holt, President of the Louisiana State Board of Health, is in Washington, urging the passage of a bill creating a commission to investigate the alleged preventive inoculations against yellow fever.

Conception after a Double Ovariotomy.—Dr. Schatz reports a case (*Centralb. für Gynäk.*) of a young woman from whom he removed the whole of the left ovary for a cystic tumor; he also removed part of the right ovary, which had undergone cystic degeneration. The patient menstruated regularly, subsequently married, and in May, 1885, was delivered of a daughter at full term.

Wanting a Real Arm.—A correspondent, who is a layman, and evidently has lost an arm, writes in all seriousness, asking us if there is not some surgeon in New York bold enough to try and graft a new arm on his stump. He states that he is willing to pay a convict or any other person who might be willing to contribute his arm to the cause.

MONUMENT TO M. BOULEY.—The Veterinary Society of Gironde has voted to solicit subscriptions for the erection of a monument to the memory of the late Professor H. Bouley, to be erected in the Veterinary School of Alfort. Subscriptions are requested from veterinaries, physicians, and all men of science who have benefited by Bouley's labors.

PROHIBITING THE SALE OF TOBACCO TO MINORS.—A measure, supported by voluminous petitions, is before the Committee of the Massachusetts Legislature on Public Health, to restrict the sale of tobacco to minors under the age of fifteen or sixteen years. It is claimed by the petitioners that both boys and girls in the public schools are addicted to the use of cigarettes to an alarming degree.

"THE SOUTHERN CALIFORNIA PRACTITIONER," is the title of a new monthly medical journal published at Los Angeles, Cal., and edited by Drs. J. P. Widney, Jos. Kurz, and Walter Lindley. The gentlemen are also members of the Faculty of a new medical college, called the College of Medicine of the University of Southern California. This institution, we are told, opens with prosperous auspices.

A PROPOSED NEW MEDICAL COLLEGE IN NORTH CAROLINA.—The *North Carolina Medical Journal* states that the project of establishing a medical college in connection with the University of North Carolina is being seriously considered. The *Journal* wisely insists that such a college should not be started until sufficient money is pledged or secured to make the faculty independent of students' fees.

THE WAY THEY DO IT.—We are requested to state that the advertising homœopathist referred to in our issue of January 30th, is not a member of the Homœopathic Society in question, and that consequently he cannot be reached by that or any other society, unless possibly by first enforcing the law requiring membership in some recognized county society, as the law makes no provision for ethical misdemeanors. He was nominated for membership of that society, but the nomination was opposed in open meeting—because of the facts stated in THE MEDICAL RECORD—and he was not elected.

LIABILITY OF HOSPITALS FOR MISTAKES OR ACTS OF EMPLOYÉS. — Malcolm S. Daly, aged seventy-four, recovered a verdict of $1,700 in the United States Circuit Court, at Omaha, Neb., against the St. Joseph's Hospital, conducted by the Franciscan Sisters. The facts proved that Daly, occupying a room in the hospital while under treatment for cataract by an oculist, one of the nurses, by accident or mistake, dropped carbolic acid in his eye, which entirely destroyed it. Daly was a paying patient.—*Medico-Legal Journal.*

THE DECLINE OF IRIDECTOMY.—"We note," says the *Medical Press*, "that M. Panas, of Paris, in advocating a new ophthalmic antiseptic, boasts that he has been able to do away with Von Graefe's method of cataract extraction (linear incision with iridectomy) and revert to the older flap operation, reserving the iridectomy for exceptional cases. . . . Ophthalmologists have recovered from the iris-snipping craze, are convalescing from the jequirity fever, and are down in the cocaine epidemic. Shall we not look back on the literature of the iridectomy mania and profit by the proof since given, that nine-tenths of what was then written in praise of iridectomy was nonsense—that most of the statistics of cures were cooked and utterly unreliable, and that we retain at the present day nothing gained from the ophthalmological perfect cure except its occasional use as a forlorn hope?"

THE NEW YORK ODONTOLOGICAL SOCIETY gave its annual dinner at the Hotel Brunswick, on Wednesday evening of this week. About two hundred gentlemen were at the table, among them E. A. Bogue, President of the Society; William H. Arnoux, Dr. Fordyce Barker; Drs. Thomas M. Markoe, J. C. Hutchison; Professor R. R. Andrews, of Cambridge; ex-Postmaster General James, Dr. William A. Hammond; Drs. A. F. Beard and Ernest Bent, of Paris; Drs. James McManus and George L. Parmele, of Hartford; Drs. Abraham Jacobi, Lewis A. Sayre, Dr. George F. Shrady, and Dr. Norman W. Kingsley. General Horace Porter, in speaking of dentists from a patient's standpoint, said that it was the first time that he had fallen into the hands of dentists when he found his mouth in a condition for speech-making. Other speakers were the Rev. Dr. Howard Crosby, Dr. J. Smith Dodge, and Professor J. E. Garretson, of Philadelphia.

CRIMINAL LIABILITY OF IGNORANT DOCTORS.—A physician, called to attend a sick woman in Worcester, ordered that she be clothed in flannel saturated with kerosene oil, and that the saturation be renewed from time to time. The direction was followed, and caused the death of the patient. The doctor was indicted for manslaughter and convicted. The case was appealed to the Supreme Court of Massachusetts; that tribunal has just given an opinion sustaining the verdict. The doctor offered some evidence, on the court trial, that he had prescribed similar treatment, with favorable results, in other cases, but that in one the result had been to blister and burn the flesh. His counsel asked the trial-judge to charge the jury that if the defendant prescribed with an honest purpose and expectation to cure he was not criminally liable for the death of the patient, however gross his ignorance of the nature of the disease or the probable effect of the remedy; that he could not be convicted of manslaughter without finding him guilty of "obstinate, wilful rashness." The judge refused to so charge, and the ruling is affirmed by the Supreme Court. It holds that it is not necessary to show "an evil intent" on the part of the doctor. If by gross negligence, recklessness, or foolhardy presumption he caused the death, he was guilty of culpable homicide. The defendant professed to be a physician. A physician of the most ordinary knowledge and experience is expected to know the probable disastrous effect of the remedy prescribed in this case. "The man who assumes to act as the defendant did must have done it at his peril. The defendant knew that he was using kerosene and saw from day to day how it worked. The jury has found that it was applied as a result of foolhardy presumption or gross ignorance, and that is enough."—*Medico-Legal Journal.*

MALPRACTICE SUITS AND THEIR PREVENTION:—Another unsuccessful suit against a doctor is reported in the *Daily Commonwealth*, of Covington, Ky. About one year ago J. B. Garrard jumped from a moving train on the Kentucky Central Railroad, at Catawba Station, and broke his leg above the knee. He was brought to St. Elizabeth's Hospital, in this city, and treated by Dr. Charles Kearns, the Hospital Surgeon. He remained there for over three months, and his leg was mending nicely, when, contrary to the doctor's advice, he went home, resulting in a set-back of his injury, which eventually resulted in a shortened leg, and he entered suit against Dr. Kearns for $10,000 damages. The case was tried in the Circuit Court yesterday and given to the jury, which only took a few minutes to decide in favor of Dr. Kearns. In this connection we may publish a communication received from Dr. W. S. Parker, of Piqua, Ohio, suggesting a remedy for the useless and malicious prosecutions to which physicians are subjected. He says: "I would suggest the framing and passing of a law, the force of which would be to put the plaintiff under sufficient bonds to indemnify, in case of failure to sustain his charge, the physician or surgeon for all pecuniary loss said physician or surgeon may have incurred, as well as a fair compensation for any loss of time. Several suits have fallen under my own observation; I was once jeopardized myself, and in each instance the suit failed. In my judgment, were some such law in force, but few suits for malpractice would be instituted."

Obituary.

ALFRED C. POST, M.D., LL.D.,

NEW YORK.

WHEN it became generally known, a few days ago, that Dr. Post was confined to his bed with an attack of his old complaint, cystitis, his many friends were anxious as to the result. Although blessed with a vigorous constitution, he had, within the past few months, shown to his intimate friends signs of failing health. He pluckily kept to his work, however, and was apparently contented in his ability to do so up to the last. Happily, his suffering was of short duration, and his end was a peaceful one. He was one of the old landmarks for the profession of New York. In actual practice for fifty-seven years! Who are they in the present generation who can reasonably expect such a life-experience, and who can use it to better advantage? Every one knew Dr. Post. Thousands have heard him lecture, have seen him operate, and have read his published papers. Not to have done either would imply the missing of something. Indeed, he was a remarkable man in many ways. At the age of eighty he combined the enthusiasm and freshness of youth with the stolidity and discretion of ripe experience. No truth was too novel for him, no fact too old for him. As a lecturer he was always impressive, terse, and explicit; as an operator he was bold, steady, and self-reliant; as a writer he was lucid, logical, and classical. In fact he took a just pride, at his advanced age, of being precise in everything pertaining to his daily walk and conversation. His memory was something remarkable, and many who presumed to question it on general principles were often brought up with a round turn by a timely reference to a published fact or an apt quotation from some classic poet. His rich store of scientific and classical knowledge was always at his command, and those who knew him best respected his views the most.

Dr. Post was born in this city in the year 1805. He was the son of Joel Post, an eminent merchant of the old firm of J. & J. Post, formerly in Hanover Square. Joel Post in his lifetime occupied as his country-seat the property known as Claremont, now forming in part the Riverside Park and embracing the site of General Grant's tomb. Much of this property still remains in the ownership of the family. Dr. Post entered Columbia College when less than fourteen years old, and, in fact, was prepared to enter college two years earlier. After his graduation, in 1822, he became a medical student in the office of his uncle, Dr. Wright Post, an eminent surgeon of a former generation. He also took the course of instruction in the College of Physicians and Surgeons, where he was graduated in 1827. He then went to Europe to complete his medical education, studying at Paris, Berlin, and Edinburgh.

On his return, in 1829, he began the active practice of his profession in this city, and continued it until the week before his death. Dr. Post, as early as 1836, was made one of the attending surgeons of the New York Hospital, and more recently was connected with the medical staffs of St. Luke's and the Presbyterian Hospitals. He was one of the founders of the medical department of the University of the City of New York, taking the chair of surgery and pathological anatomy, and at the time of his death was President of the Medical Faculty and Emeritus Professor of Clinical Surgery in that institution.

He was also at the time of his death Consulting Surgeon to the New York and Woman's Hospitals. His connection with the former institution extended over a period of fifty-one years, and was to have been made by the Board of Managers of that institution the occasion of a jubilee the coming spring.

He was a member of the New York Academy of Medicine, serving it as Vice-President; of the Pathological Society (once its President), of the County Society, the Medical Society of the State of New York, and of many foreign societies. Actively interested in the prosperity of all, he was always ready to contribute to their transactions by valuable papers and remarks. Few men have held so many positions of trust, and few indeed have filled them with more credit to themselves. Dr. Post was a quiet Christian, one who gave evidence of the fact rather by his works than words. He was a lifelong member of the Presbyterian Church, and at the time of his death was an elder in the Church of the Covenant. He was also President of the New York Medical Missionary Association, and one of the Directors of the Union Theological Seminary.

About the year 1832 Dr. Post married Harriet, a daughter of Cyrenius Beers, whom he survived nearly nine years. Of their children, three sons and four daughters survive their father. One of his sons, George E. Post, of the Presbyterian Mission at Beirut, Syria, has also reached great distinction as a surgeon.

The funeral services were held on Wednesday, February 10th, at the Church of the Covenant, and were largely attended by his numerous friends.

The Rev. Drs. John Hall and George L. Prentiss were the officiating clergymen, and the latter delivered a touching eulogy upon the deceased. Delegations from the County Medical Society, the College of Physicians and Surgeons, the Academy of Medicine, and the Medical Department of the New York University were in attendance, and the Church was crowded with professional and other friends of the dead man.

The pall-bearers were Dr. Abraham Jacobi, Dr. D. Lewis, Charles Butler, Maurice M. Backus, Dr. William N. Blakeman, Dr. A. L. Loomis, Dr. A. S. Purdy, Dr. Stephen Smith, Dr. Charles Inslee Pardee, Dr. George F. Shrady, William A. Booth, and Ezra Kingsley. The family physicians, Dr. A. E. M. Purdy, Dr. R. F. Weir, and Dr. R. Abbe, were also in attendance. The interment was at Woodlawn.

Reports of Societies.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 8, 1886.

BEVERLEY ROBINSON, M.D., PRESIDENT, IN THE CHAIR.

DR. GEORGE F. SHRADY presented a patient, the subject of

SPINAL ARTHROPATHY.

The patient was sent to him four years ago, for operation, on account of what was supposed to be a tumor of the left knee. On examination the joint appeared much enlarged, especially on its inner aspect, was very irregular in outline, and was in a condition of lateral subluxation. The articular surfaces were denuded of cartilage, and the ligaments were so lax that not only could lateral deflections be made with the greatest ease, but the tibia could be rotated to a considerable extent on its longitudinal axis. All these manipulations were painless, nor did the patient complain when steadying herself upon the limb, notwithstanding the fact that the denuded joint surfaces would grate and grind into each other in a way that seemed to threaten the crushing of neighboring bone structures. What appeared on superficial inspection to be a tumor, was an expanded, osteo-porotic inner condyle of the femur. Other bony parts of the joint were similarly affected, but not to such a symmetrical degree. The synovial sac contained no appreciable amount of fluid; in fact, the joint as a whole gave the impression of being in a condition of dry disintegration. The left leg, naturally large on account of the patient's obese condition, was much increased in size by fibrinous infiltration of the soft parts, and hyperplasia of the osseous tissues. The condyles and lower third of the femur were similarly affected. At first he concluded that the case was an unusually marked one of rheumatoid arthritis, but inquiring particularly into the general history of the patient he changed his diagnosis to that of spinal arthropathy. The latter was reasonably confirmed by the co-existence of certain ataxic symptoms. These were not so marked in connection with the tendo-reflex as with the co-ordinating muscular power in the extremities, which was associated with a disease of the articular ends of the bone, due to a faulty nutrition, and dependent on central nervous lesions. The conclusion was at first forced upon him rather by excluding apparently similar local conditions from consideration (principally among these being that of osteo-arthritis) than by many of the more usual and positive symptoms associated with locomotor ataxia. Since this case had been under observation, however, the diagnosis had been confirmed not only by the progress of the local lesions, but by the development of marked tabetic symptoms. The joint itself had progressively degenerated, its articular extremities had worn away, become more expanded and unshapely, the ligaments had degenerated, and as a consequence luxations were produced by the slightest efforts on the part of the patient, rendering the extremity absolutely useless for purposes of locomotion.

A point in the diagnosis was that these changes had been going on symmetrically, there having been no nodosities developed, as is the rule in osteo-arthritis.

Pathologically, spinal arthropathy was in every essential particular different from purely arthritic degeneration. In the former the bone tissue was first affected by direct interference with its nutrition through the vaso-motor system; the destruction of the cartilages and synovial membranes, and the gradual absorption of osseous elements being secondary manifestations of the disease. In osteo-arthritis the processes were reversed, the soft tissues in and around the joint being the first to be attacked, and undergoing inflammatory rather than trophic changes. The general or ataxic symptoms were not so marked in connection with the absence of reflexes as with lack of the co-ordinating power in the extremities and in the eyes.

The left eye particularly showed marked disturbances of nerve influences, principaly as affecting the third pair of nerves, there being ptosis, divergent strabismus, and consequent diplopia. The latter symptoms had been, during the past year, slowly but markedly progressive. The other joints in the body were free.

This, then, was the case in brief. The disease of which it was an example was either very rare, or not recognized as often as it should be. He had seen but one other. Very many of his professional friends, of large experience, had not seen as many. In the other case to which he referred, which, like this one, was a hospital patient, the disease was also confined to the knee, both joints being nearly similarly affected, and associated with more pronounced ataxic symptoms, especially such as referred to the eye complications—ptosis, strabismus, and diplopia.

In both there was a history of specific infection, and in both the usual treatment for the same resulted negatively. The same might be said of medication generally in regard to these cases; the local lesions progress despite everything that had been tried to arrest them, and we were seemingly narrowed down to the simple expedient of giving support to the parts and thus reducing friction and pressure to the minimum.

DR. A. A. SMITH then read a paper (see p. 178) entitled

SOME CONSIDERATIONS ON THE DIAGNOSIS AND PROGNOSIS OF ABDOMINAL ANEURISM.

DR. W. M. POLK said he had had no practical experience which differed from that mentioned by Dr. Smith; in fact, he was obliged to go back seven years to recall any case of abdominal aneurism. They are not common, and the Society was fortunate in having the opportunity of hearing the three cases presented by Dr. Smith. But there was one thing which was a subject of congratulation for those gentlemen who had to deal with intra-peritoneal developments, and that is the prompt tendency which the peritoneum exhibits to resist the progress of any of these formations by throwing out plastic exudation. He should think that in case of aneurism this was a condition which might go on, perhaps not so rapidly as where the inflammation is more acute, but still might develop a membrane which would prove decidedly conservative in its influence upon the growth.

As bearing on the protective character of peritoneal adhesions he could recall an operation that illustrated what surgeons might be willing to do. It was a case of vaginal hysterectomy, and after removal of the uterus he did not close the opening, but simply stuffed it, after withdrawal of the uterus, with iodoform gauze, putting it in direct contact with the peritoneal surfaces, with the confident expectation that the excavation left would be closed over within forty-eight hours, and in that manner exclude percolations of any material which might not be absorbed by the gauze. He expected that the newly-formed exudation would stand guard between the abdominal cavity and the vagina. In the absence of septic influences he thought we might rely upon the peritoneum doing that very thing.

DR. H. F. WALKER gave condensed histories of two cases of abdominal aneurism which came under his care while he was visiting physician to Bellevue Hospital.

In the first case, the nature of the disease was recognized. In the second, there was such obscurity of symptoms, and such absence of the crucial signs of aneurism, that though that disease was daily in mind in the examination of the patient, the diagnosis was only made at the autopsy.

Patient number one, admitted July 12, 1875, was a man of forty, a laborer, whose previous health had been good. Nine months before, while driving, he had lost control of his horses, was thrown from the wagon, and struck his left side, in the lumbar region, against a lamp-

post. Six months after, a small tumor appeared, which since then has gradually enlarged. Its appearance and growth have been attended with dull and shooting pains.

The tumor, at time of admission, had its centre four inches to the left of the median line, one and a half inch above the crest of the ilium. It was seven inches in vertical, and seven and a half inches in transverse diameter. As the patient lay supine, its highest point was raised one and a half inch above the general surface. It pulsated with the radial pulse, but no bruit could be heard by careful auscultation, though ten days after admission an aneurismal bruit was detected. One month after entrance the tumor had greatly increased, especially in the transverse and antero-posterior measurements. These were, respectively, eleven inches transversely, and two and a half inches above the surface. The vertical diameter was seven and a half inches. The tumor continued to grow till September 3d, when the last measurements were made: vertical diameter, thirteen inches; transverse, fifteen inches; height of the tumor above the surface, six inches.

September 5th the patient died of asthenia, worn out by long-continued pain and inability to assimilate food.

The treatment had been the maintenance of the supine posture, and opium for relief of pain.

The autopsy was made September 6th, under supervision of the curator.

The abdominal cavity, left side, was occupied by a tumor which dislocated the kidney and the intestines. On its anterior or ventral surface lay the psoas muscle much flattened; on the lateral surface the first, second, third, and fourth lumbar vertebræ were much eroded, the intravertebral cartilages preserving their size and shape. The last rib also was eroded. Posteriorly, the tumor was covered by skin, lumbar fascia, and muscles. Its capacity was estimated at one and a half gallon. A probe passed from the heart through the descending aorta entered the sac near the origin of the cœliac axis. From below upward, along the external iliac artery, the tumor was entered between the mesenteric arteries. Between these two points, a space of about two inches, the coats of the artery exist. Between these points a sacculus extends across the spinal column, and presses against the transverse fissure of the liver. Its capacity is six ounces. It is formed of the arterial coats. A probe pressed against the posterior or lateral inner surfaces of the larger sac is not perceptible to finger outside. The tumor, on opening, is found filled with laminated fibrin and clots, making the solid thickness of the tumor, posteriorly, to be from six to eight inches. The coats of the artery cannot be recognized in this region, the sac here being formed of fascia and skin.

The growth of the tumor has been backward between the psoas muscle and vertebræ. Anteriorly, the sac of the tumor is formed of the thickened peritoneum. Liver flattened and compressed. Kidneys: both show chronic diffuse nephritis, and are studded with emboli. The left is compressed; there are clots in the renal arteries. Coats of the aorta atheromatous. Heart normal.

The second case is that of a woman, aged thirty-two, who was admitted to Bellevue Hospital October 3, 1882. She was anæmic in appearance, even phthisical. For three years she had been an opium-eater. For six months she had had chronic diarrhœa. To gain relief from this, and pain located in the back, running up to the spine of the scapula, she came for treatment. This pain was described as originating in the region of the liver, which was enlarged.

October 13th.—The diarrhœa is relieved, but the pain in the back is greater and attended with dyspnœa. Examination shows flatness, with loss of respiratory murmur and voice-sounds, over the right lung up to the ninth rib, and over the left to an inch above the angle of the scapula. The hypodermic needle introduced brought a small amount of blood-stained serum from the right side, and clear serum from the left. The heart gives a singular variety of murmurs.

[These in their variations were probably all from the aneurism, and none from the heart. Their character changed from time to time.]

The whole left side of the chest receives a forcible heart impulse. A loud systolic murmur, musical in character, is heard at apex, transmitted to the left. The apex impulse is an inch outside, and just above the nipple. A thrill is felt over the pericardium, and over the whole of the pericardial space a friction sound is heard, increased by the patient's bending forward, and not interrupted by her holding the breath.

October 28th.—The fluid is almost gone from the left side. The liver is now much enlarged, its increase in size having been gradual since the patient's admission to hospital. In the mammary line it extends nine and one-half inches, its lower border to an inch below the umbilicus. Posteriorly and in the lateral right hypochondriac region it gives a half-elastic, half-boggy sensation to the hand, as far down almost as the iliac crest.

[Because of this sensation, and because the patient had had diarrhœa of chronic character, the small needle of the aspirator was introduced into the side at several points in right side, in the hope of finding the pus of a hepatic abscess. This was done on several occasions, withdrawing only a trifling amount of blood and without subsequent attendant symptoms. A possible fecal accumulation was eliminated by tentative treatment also.]

November 3d.—The note in the history is that the pulse of radial carotid and femoral arteries is synchronous.

November 7th.—Friction-sounds over heart. Loud systolic murmur; its greatest intensity at the third intercostal space at the left of the sternum, transmitted toward the right. Diminished area of dulness over the liver. This diminution has been constant and gradual since the 3d instant.

November 12th.—A double murmur is now heard along the eighth rib, one and one-half inch each side of the sternum.

November 24th.—A swelling, the size of an egg, found in the back, on right side, at level of tenth rib, obscurely fluctuating. It gives to the hand the emphysematous crackle. The hypodermic needle draws only blood. The patient died this day. The autopsy was made by Dr. Welch, the curator:

"All the thoracic organs are pushed upward. The connective tissue over the pericardium emphysematous. Pericardium contains two ounces of fluid, but no evidences of recent pericarditis. Heart not hypertrophied; no fatty degeneration. Its valves competent, and there is no atheroma of thoracic aorta. Left pleura contains twelve ounces of fluid. The left lung somewhat compressed; the right, pressed upward, was carnified in the lower lobe and contained no air.

"Liver is six inches below the free border of the ribs in the mammary line. The pushing forward of the liver and the arching of the diaphragm gave the impression of great enlargement of the liver. The viscus is much thinner than normal, and a tumor lies behind it, to which it is adherent. The spleen is pressed to the left. The stomach is pressed upward and forward, the intestines downward; the right kidney compressed by, and adherent to, the tumor, the left normal. The aneurism is in the abdominal cavity, just below the diaphragm. Its size is twice that of a normal liver. The aorta enters the superior surface of the tumor just beneath the diaphragm, and issues from it at the level of the first lumbar vertebra. The tumor lies on each side of the vertebral column. Its anterior wall is made up of the coats of the distended artery, connective tissue to which adjacent organs are adherent, and of laminated fibrin. Its posterior wall is formed of the vertebral column, ribs, intercostal muscles, muscles of abdominal walls, and by a layer of laminated fibrin about *five inches*

thick. The abdominal aorta passed along the anterior wall of the tumor, the vena cava lying alongside and not compressed. Just below the diaphragm, half an inch above the cœliac axis, was an opening into the tumor on the posterior wall of the aorta one-half inch wide, two inches long. The wall of the aorta was clearly seen to spread out and be continuous with the wall of the aneurism. This tumor was hard, lined with laminated fibrin, four inches thick posteriorly. It contained ten ounces of clotted blood.

"The bodies of the eighth to the twelfth dorsal vertebræ, inclusive, were eroded. The cartilages were intact. The eighth, ninth, and tenth ribs on the right side were carious—the tenth being entirely separated from the vertebra. Over this point the external swelling which gave the emphysematous crackle had formed."

Dr. E. Darwin Hudson, Jr., remarked, with reference to Dr. Walker's observation concerning the escape of the intervertebral cartilages, that it was also the rule in thoracic aneurism that the costal cartilages remained unaffected while the ribs were absorbed. It is a singular fact, but he thought it of quite common occurrence, and attention had been directed to it by Hayden, and others.

Dr. Kinnicutt thought it could be quite confidently asserted that abdominal aneurism was of longer duration as regarded the life of the patient than thoracic aneurism, a fact which could be accounted for otherwise than by the protection afforded by peritoneal thickening. Such, at least, had been his experience.

Dr. Smith said the point which he wished especially to develop in his paper was the protective thickening of serous coverings in either thoracic or abdominal aneurism. He thought the very fact that it is protective in many cases might make the prognosis unfavorable in other cases; for, if the peritoneal covering is so thick as to protect the sac in one portion, it might allow the sac to dilate more readily at other points, and thus allow it to rupture more quickly unless protected in that particular region also.

In none of his cases was there any evidence of syphilis, and it might be that traumatic aneurism progressed more slowly, and the cases were more prolonged than those which occur with the degenerative changes affecting the blood-vessels due to the specific disease.

Dr. Walker said it seemed to him that thickening of the walls of the aneurism was more likely to be from internal deposit than from thickening of the peritoneum.

Dr. Smith said his paper did not refer to thickening of the inner surface of the aneurism, but simply to those cases which were protected by outside influences.

Dr. Polk asked Dr. Smith if he had any information touching the protective influence on abdominal aneurism exerted by the pressure of other abdominal tumors.

Dr. Smith replied that he had not.

Dr. Polk said the reason he asked the question was because Dr. Gillette recently reported an extremely interesting case of this kind. A woman about thirty years of age had a distinct abdominal aneurism. She became pregnant, and he was seized with the usual anxiety under those circumstances; but as the woman seemed to be getting along very well he allowed the case to progress without interference, and she finally went to term, suffering no inconvenience during her pregnancy, and passed through labor without accident. The result upon the abdominal aneurism was a marked diminution in its size and a marked amelioration of the symptoms, all of which Dr. Gillette attributed to the influence of the outside pressure brought to bear upon the aneurism, very much in the same way as pressure in Dr. Smith's cases from thickening of the peritoneum, although in an entirely different manner, and not so direct.

Dr. J. B. Hunter, as bearing somewhat upon this question, said he would mention the dense covering found in some cases of abscess. He had seen accumulations of pus in the peritoneum which had been there for years probably, and the sac was composed entirely of thickened peritoneum.

Dr. Smith remarked that he did not believe the condition which he had described would account for the long duration of the disease in some cases of abdominal aneurism.

The President queried whether iodide of potassium, the favorite remedy in the treatment of aneurism, exerted any effect in producing this protective influence.

Dr. Smith said that in his two cases there was an injury, and probably the first step of the process was an attack of peritonitis, localized, and the result of the blow. In the case of the woman now under observation there was no history of traumatism at all. The thickening is simply the result of repeated attacks of inflammation.

INFECTIOUSNESS OF SECRETIONS IN PURULENT CATARRHAL INFLAMMATION OF THE EAR, EYE, AND NOSE.

Dr. Samuel Sexton said that a considerable number of children under six or seven years of age, especially those attending the public schools, came to his aural clinic at the New York Eye and Ear Infirmary with catarrhal inflammation of the upper air-tract, in which the ears, eyes, and nose were particularly affected, there often being purulent discharge from these organs. The cutaneous surfaces adjacent were frequently found to be the seat of dermatitis, or even of an eczematous eruption, due in part to the irritation of secretions. The dental irritation of this period was often found to be active, and in the run-down, cachectic children of the poor—usually but illy provided for in respect to food and clothing—catarrh of the head is of extremely frequent occurrence. These patients are often sent from one department of the Infirmary to another to receive treatment for the ears, eyes, and nose, and where there is also eczema of skin the distress is greatly increased.

Dr. Sexton asked what the views of members of the Society were in regard to the causation in this trouble; he himself has considered that it was due to the causes mentioned, which are of such general prevalence among the class of children in question, whether attending school or living in institutions, where, like the schools, there was overcrowding, and where hygiene was defective, rather than to contagion or the infectiousness of the purulent matter secreted; at least this seemed to be the case as far as the ears and nose were concerned. He was not informed as to why purulent secretions from the eye, however, were more infectious as regards that organ itself than those from the ear and nose, and would be glad to learn the theories offered in explanation.

Dr. E. G. Loring thought that any secretion from the eye which was purulent was contagious. It was a most remarkable fact that secretions from the ear were not contagious to the eye. Children with otitis media never get ophthalmia, so far as he knew, from becoming inoculated with the discharges from the ear. Probably there is some general condition of the system which favors this contagion.

(To be continued.)

Iron or Potassa?—Dr. John W. Taylor, of Crawfordsville, Ind., writes: "In The Medical Record of January 9th I notice a communication from Dr. Tipton, which provokes from me the above query. The Doctor ascribes all the curative virtue in the prescription to the iron alone, and leaves the potash and the glycerine out in the cold. Is this fair? Did not Seligmüller achieve the like brilliant results with the saturated solution of chloride of potash alone? If that drug was so efficacious in his hands, is it not possible that it is the curative agent in the prescription given by Dr. Tipton? I think it more than probable. For several years I have used Seligmüller's method exclusively, and have been so well satisfied with its work that I have come to rely upon it with the greatest confidence in every case in which there is sufficient vitality to respond to any treatment."

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 4, 1886.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

DR. B. F. SHERMAN, of Ogdensburg, was introduced by the President.

DR. M. ALLEN STARR read a paper (see p. 174) on

THE INTRA-CEREBRAL TRACTS,

their physiology, and its bearing upon the diagnosis of lesions of the centrum semiovale.

DR. SHERMAN inquired of Dr. Starr whether physiologists had demonstrated what might be called a thermal centre, to which Dr. Starr replied by mention of the investigations in that direction by Eulenberg and others.

PERMANENT DRAINAGE IN ASCITES.

DR. AUG. G. CAILLÉ related the histories of two cases, and made them the basis of some remarks. About four years ago he saw an elderly gentleman suffering from cirrhosis of the liver, in whom the symptoms depending upon ascites were so marked as to urgently demand tapping and repetition of the operation. He was tapped nine times in the course of seven months, a pailful of serum being removed each time. Before the tenth operation Dr. Caillé determined to attempt permanent drainage, although the danger of exciting a peritonitis or other serious complication was fully appreciated. An incision an inch in length was made in the median line, half-way between the umbilicus and symphysis pubis, a trocar and cannula introduced, the trocar withdrawn and a rubber tube inserted. After withdrawl of the fluid the tube was allowed to remain, iodoform being put upon the dressing at the mouth of the tube, and the fluid allowed to drain and be absorbed by towels. Some eczema developed under the dressing, which disappeared under appropriate treatment.

After drainage had been established the œdema disappeared rapidly, the heart-action improved, the breathing was freer, the troublesome cough disappeared, the bowels became regular, the appetite improved, and the patient became able to go about, wearing all the while the tube. The rubber cannula remained *in situ* about nine weeks, when it was removed, and at the end of another four weeks the opening closed. The patient was able to be about his duties nine months, there being no return of the œdema nor of the ascites. After nine months his strength began to fail, and he finally died of heart-failure. Two weeks before death there was a return of slight œdema of the ankles. At the autopsy were found cirrhosis of the liver and fatty heart. Careful inspection of the peritoneum at the seat of puncture revealed no evidence of inflammation.

The second case was similar, and in addition there was marked purpura hemorrhagica, epistaxis, bleeding gums. The patient had no appetite and was unable to sleep. He was treated as was the other patient, in this case a rubber tube being employed to conduct the drainings from the rubber cannula to a bucket by the bed containing a carbolic solution. The tube was worn for seven weeks; the ascites and œdema disappeared; the appetite improved; there was, in short, improvement in all the symptoms. The patient was able to pass ten weeks with his family in the Catskills, and continued to live a comfortable existence until the spring of 1885, when he died suddenly, as was supposed of heart-failure, when attempting to get out of bed. There was no return of the ascites. An autopsy was not allowed.

In his general remarks Dr. Caillé considered four questions: First, what are the symptoms and dangerous mechanical effects of ascites? Second, how is the collateral circulation established in cirrhosis of the liver? Third, will the absence of intra-abdominal pressure, or pressure from ascites, promote collateral circulation and functional activity of important organs, and thereby prolong life and add to the comfort of the patient? Fourth, how is drainage best accomplished?

After considering these questions the author said he was inclined to believe, from this limited experience, that we need not fear peritonitis so much when ascites is present as under other circumstances. Too much importance, however, should not be attached to these two cases, for the number was too small to judge of the value of this procedure. It was his opinion, however, that it should be given a trial in cases of ascites which required two or more tappings for reaccumulation of fluid.

THE PRESIDENT said it appeared to him that Dr. Caillé had done in these two cases what might have occurred spontaneously. Probably some of the gentlemen present had seen cases of extreme ascites in which spontaneous rupture of the abdominal walls had taken place. He had seen some such cases. The place of rupture was usually in the median line, particularly at the umbilicus. In such cases there was, of course, a permanent fistula established, and instead of allowing it to occur at a spot which was not convenient or pleasant he thought it was better for the surgeon to make the opening where he wished it should be established. There was such a case in the German Hospital the past year, that of a heavy German, in whom spontaneous rupture took place at the umbilicus, allowing of the escape of the ascitic fluid. It healed and reopened several times in the course of a few months. The patient felt so well satisfied with his condition that he left the hospital, but naturally the shrinking liver and swelling spleen still remained.

The President then described a case of encysted ascitic fluid which occurred in his ward in the Bellevue Hospital last year, in which the physical signs were almost exactly those seen in a patient over twenty years ago. In the case seen long ago he made the diagnosis of ovarian tumor, and although post-mortem examination proved his error, he still thought that the diagnosis of ovarian cyst was the only one justified by the signs during life. He had this case in mind when contemplating an operation upon the patient in Bellevue Hospital, yet the signs were so plainly those of an ovarian cyst that an incision was made, when it was found that the fluid was ascitic, limited by adhesions. Permanent drainage was then established for a time, and the patient improved and left the hospital. He had since heard that the fluid had reaccumulated. There was a family history of tuberculosis, and it was probable she had tubercular peritonitis.

After hearing of the operation for permanent drainage in ascites by Dr. Caillé, the President had resorted to it in one case of cirrhosis of the liver in which there were signs of small liver, enlarged spleen, purpura, epistaxis, increasing dyspnœa, etc. The ascitic fluid was drained away through a tube passing between the patient's legs to a bucket. After a time the end of the rubber cannula was closed at night with wax. The patient was much relieved, but, as in all cases of advanced cirrhosis, death must finally ensue, and in this case the patient died of exhaustion not long after drainage had been established. The autopsy revealed no peritonitis. He was convinced that Dr. Caillé's operation was a good one.

DR. GARRIGUES asked a question with regard to the working of a drainage-tube and band exhibited, and DR. MEYER related a case which he thought went to show that permanent drainage might be established when the fluid in the peritoneal cavity contained pus, and that possibly the drainage might be made to take place through the vagina.

DR. LINDLEY raised the question of the medicinal treatment of cirrhosis of the liver, and said that among the Dutch in South Africa a popular remedy was honey taken daily. It might appear absurd, but he said he had tapped a man with ascitic fluid, and an old woman told him to give honey. The patient took a pint of fluid honey daily, and had no further trouble.

DR. SHERMAN suggested that some medicinal property of the flowers from which the honey was made might have had the curative effect.

THE PRESIDENT said that during the first part of his professional career he was opposed to the use of mercury except for syphilis. But during the past ten or twelve years he had gotten over that prejudice, and he was satisfied that corrosive sublimate given in small doses for a long period of time had a beneficial effect upon interstitial inflammations, whether they occurred as a cerebritis, a nephritis, a hepatitis, etc. He felt sure that it had stopped the progress of interstitial changes in a number of cases; and in patients in whom the disease had affected only a part of a vital organ this drug had the power of checking the progress of the disease and thus of prolonging life indefinitely.

The Academy then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE SOCIETIES—INCREASE OF WHITE BLOOD-CORPUSCLES IN INFLAMMATION—SUCCESSFUL REMOVAL OF A TUMOR FROM ROOTS OF LAST CERVICAL AND FIRST DORSAL NERVES—PROSTATIC CASTS—SIR WILLIAM DALBY—THE LONDON TEACHERS AND THE CONJOINT SCHEME—THE NEW M.D.—MR. HUTCHINSON'S LECTURES AT THE MEDICAL SOCIETY OF LONDON—SECONDARY AND TERTIARY STAGES OF SYPHILIS—THE ANTIDOTAL POWER OF MERCURY—THE COLLEGE OF PHYSICIANS AND ST. AUGUSTINE—DR. HEYWOOD SMITH AND THE ARMSTRONG CASE.

LONDON, January 23, 1886.

THE societies have now resumed work since the Christmas vacation. The general character of their proceedings during the last week may be described as somewhat dry, but a few communications were of some interest.

The most noteworthy feature of the last meeting of the Royal Medical and Chirurgical Society was the reading of an elaborate paper "On the Increase in Number of White Corpuscles in the Blood in Inflammation." The paper was based upon numerous and laborious observations made on nearly twenty cases by the author, Mr. T. P. Gostling. The cases included examples of iliac abscess, pelvic cellulitis, empyemas, phthisis, typhoid, acute rheumatism, etc. The author concluded that white corpuscles are increased in number in suppurative inflammations, especially when accompanied by tension, the normal proportion (1 white to 333 red corpuscles) being doubled in many cases; that they are slightly increased in parenchymatous inflammations; and that they are not increased in inflammations accompanied by serous or sero-fibrinous exudation.

After the reading of Mr. Gostling's paper a short discussion took place, mainly as to the source of the additional white corpuscles. Some of the speakers thought they were due to reabsorption of white blood-corpuscles. A little sparring here took place between Dr. Money and Mr. Horsley, the former of whom maintained, and the latter denied, that white corpuscles might be absorbed by the lymphatics. The former is a young physician, and the latter now on the surgical staff of University College Hospital, in which institution they were formerly fellow-students.

The next paper was by Dr. Mitchell Bruce and Mr. Edward Bellamy, and was on a case in which a tumor growing from the roots of the last cervical and first dorsal nerves had been successfully removed. The operation was undertaken in consequence of the growth having caused acute pain and eventually complete paralysis of the arm. Some of the cords of the brachial plexus were found to be frayed out over the tumor, which was sarcomatous in nature. The former acute pain ceased immediately after the operation, but paralysis remained, though this also finally disappeared after persistent use of the constant current. The patient died from hemiplegia more than a year afterward.

At the Clinical Society Sir Andrew Clark related a unique case of acute prostatitis which had been seen by Sir James Paget and himself. During the whole course of the case the urine was found to contain hyaline cylinders and small flask-shaped hyaline masses, which were in some cases connected with the cylinders. The casts were of the same character as those found in the urine in cases of acute nephritis or acute congestion. An important diagnostic point was the presence of flask-like bodies attached to the hyaline cylinders. He regarded these as being probably moulds of the follicles of the prostate. The presence of prostatic trouble, and the fact that the urine was healthy, *plus* a little albumen, were the other conditions favoring the diagnosis of the prostatic origin of the hyaline casts. He had met with two other cases, which were similar but less acute. Sir Andrew Clark's communication evoked a good deal of interest. Professor Greenfield, of Edinburgh, referred to four cases he had met with, in which the urine contained concretions having some of the characters of corpora amylacea. Sir Andrew Clark remarked that in the urine of women he had always found starch-like bodies, and suggested that they might be due to their use of violet powder in the toilet. Urinary chemistry and microscopy, therefore, still abound in pitfalls for the unwary despite many advances. It is not very long since a hospital surgeon made a short communication to one of the medical journals, in which he narrated an experience he had just had. On examining some urine sent to him for the purpose he found some yellow crystals, which at first he supposed to be cystine. After about two hours' work he discovered them to consist of iodoform, and subsequently discovered that the patient's bladder had been recently washed out with a lotion containing some iodoform. The administration of drugs by the mouth is also likely in some cases to lead to difficulties in urinary analysis.

The shower of knighthoods to the profession continues in a somewhat inexplicable manner. Odd reasons have been suggested as to the *raison d'être* of some of them. Had, for instance, the conversion of Dr. James Sawyer, of Birmingham, into Sir James Sawyer, anything to do with Lord Randolph Churchill's recent candidature in that town? The latest medical knight is Mr. Dalby, Aural Surgeon to St. George's Hospital. Mr. —I beg his pardon—Sir William Dalby has produced a very fair book on aural surgery and has actively promoted the oral method of teaching deaf-mutes. I do not know what other claims he has to the distinction just conferred upon him, further than his possessing sufficient money to purchase the practice and house of the late Mr. James Hinton, and keep up the style of a West End fashionable specialist.

The London teachers are in arms against the Conjoint Board, or rather against the severity of its examiners. It is declared that last July eighty per cent. of the students were rejected, that a considerable number of these were really well up, and that a few very ignorant men got through, while in one case a certificate was actually sent to one candidate who never presented himself at all for the examination. In October the standard was dropped somewhat, but not enough, and in the examination now just concluded it has been still further lowered. The questions set by the examiners have been closely scrutinized by the authorities of the two colleges before being accepted. Moreover, meetings of teachers have been held with a view of censuring the conduct of the colleges, and the latter have appointed persons to re-examine the regulations, with a view of bringing them into harmony with the teaching of the schools. I am informed, on the highest authority, that the earlier examinations are likely to be completely remodelled, a majority of the Committee being fully decided to report in favor of such a

thorough change. I understand that the two colleges are fully resolved to follow up the subject of obtaining powers to grant the M.D. degree. Some doubts were felt at one time as to whether the College of Physicians would heartily co-operate, but these are now removed, and I now learn that the College is prepared, should the proposed Royal College of Medicine be formed, to appoint scholars from its own ranks to conduct the Arts examinations for the degree in medicine. This affords an ample guarantee that sufficient academic training will be exacted from the new graduates, as among the fellows and members of the College are many distinguished classical scholars.

The burden of Mr. Hutchinson's second lecture (Lettsomian Lectures "On some Moot Points in the Natural History of Syphilis") was the relationship between secondary and tertiary phenomena. He protested vigorously against the older doctrines that there was an essential difference between them, and that certain forms of disease could be named "secondary" and others "tertiary." Thus it had been considered that visceral lesions, gummata, deep ulceration, and periostitis were characteristic tertiary phenomena. But cases had been met with in which these affections had occurred very early. Mr. Hutchinson cited two in illustration. One was that of a young man aged twenty-one, who was admitted into the London Hospital with the remains of a hard chancre on him, being also covered all over with a papular eruption which was ulcerating in places. He died suddenly, and gummata were found in the testicles, spleen, and heart. Death had been caused by the softening and ulceration of the cardiac gummata. According to the patient, infection had occurred only four months previous to admission into the hospital. Another case was that of a young man, not fairly over the secondary stage of syphilis, who also died of diffuse gumma of the heart. Large visceral gummata, said the lecturer, were common in syphilitic infants who still had secondary eruption present. In adults, it was an everyday occurrence to observe symptoms implying periostitis, transitory nervous affections, or even visceral affections, during the secondary period. Such cases had been explained on the supposition that the disease had run an unusually rapid course. Mr. Hutchinson, however, repudiated this plea, and boldly claimed that there was no lesion whatever which might not happen, and no tissue which might not be attacked, during the secondary period. It was impossible to classify the symptoms as secondary or tertiary according to the tissues attacked. These terms should rather be used as applicable to distinct periods of time. With reference to the early occurrence of so-called tertiary symptoms, the lecturer remarked that the gummata of the early period were small and numerous, while those of the later one were large, and often few, or even single. Those of the early period easily disappeared, either spontaneously or under mild treatment, while those of the tertiary stage persisted and grew indefinitely, unless adequately treated. Speaking generally, it was still true that visceral affections, etc., belonged to the tertiary stage, but this was not constant.

Many things were omitted in the tertiary stage which were common in the secondary, but there were few tertiary conditions which did not find their representatives in the preceding stage. This, said Mr. Hutchinson, favored the view that tertiary symptoms were often relapses, so to say, of the secondary ones. There was a recrudescence of morbid tissue in tissues which had been damaged at a former period. Everything that was tertiary was local in a sense not true of any of the secondary lesions. Thus the tendency to symmetry diminished as time went on, and, except certain nervous maladies, concerning which there was much debate whether they were syphilitic or not, we might say that nothing in the tertiary stage was ever bilateral except by accident.

For clinical convenience, we might recognize an intermediate period during which, in many patients, there was an absolute abeyance of all symptoms. If symptoms should occur after a prolonged period of immunity, they were always definitely of the tertiary class, and almost invariably non-symmetrical, and, if on the external parts, remarkably amenable to local treatment only. As an illustration of this, Mr. Hutchinson cited palmar psoriasis occurring in the tertiary stage. This affected one hand only, and usually that which the patient used most in his occupation; there was usually a single patch of some size, and the condition often yielded readily to the local application of mercurials or of iodoform. The hand often suffered from psoriasis in the secondary stage, but then both palms were affected, and there were usually in each a number of separate circular patches. Such symmetrical and multiple patches were obviously due to blood-infection.

For convenience, we might say arbitrarily that the secondary stage ended with the second year, and that about this period the disease ceased to be capable of spreading by contagion, or of being transmitted to offspring. In many patients the secondary stage (thus defined) ended with the first year, while in a few it lasted beyond the second year. In many persons the stage intermediate between the secondary and tertiary stages was not one of immunity, but was occupied by conditions partaking of the characters of both stages.

Mr. Hutchinson then proceeded to discuss the influence of mercury. He has for many years been a strong advocate of mercurial preparations *given for some time in small doses*. His rule of practice, he said, has been to give a single grain of gray powder from three to six times daily, according to circumstances, and seldom for a shorter course than six months in the first instance. He considers that mercury possesses a true antidotal power. If it were stopped, in many cases a very remarkable proof of its antidotal efficacy would occur. An outbreak of symptoms would often occur within a few weeks of its suspension, showing that it was the mercury which had held the poison in check. Mr. Hutchinson asserted that he had never, in any single case of late years, seen a severe eruption on the skin develop itself after a mercurial course of the kind indicated had been begun. It manifested antidotal power, therefore, in that it could not only remove, but actually prevent, the most conspicuous manifestations of the disease. He could not make so strong an assertion as to some of the symptoms of the latter part of the secondary stage, for he had seen iritis and neuro-retinitis occur occasionally, and even with severity, in cases which had been well treated, and, in exceptional cases, he had observed disease of the arteries of the brain. In, however, a large majority of cases a course of small doses continued, as indicated, for half a year was sufficient for the complete and permanent cure of the disease. No relapses occur and the patients remain afterward in excellent health.

The examination for the membership of the College of Physicians, which began a few days ago, and is now in progress, has afforded the authorities of that body an opportunity of having another fling at Dr. Heywood Smith. The President and Censors examine for the M.R.C.P. In addition to an examination in medicine (written and practical), a certain amount of linguistic knowledge is required. For this purpose extracts from Latin and Greek authors (and of late years French and German ones also) are given for translation. These are mostly taken from ancient medical writers on medicine, but on this present occasion the classical scholars of the college have exercised their ingenuity, and have unearthed a passage from St. Augustine in which the wickedness and impropriety of making examinations of young girls is denounced. Readers of the passage will no doubt take its introduction into the examination paper as a hit at Dr. Heywood Smith, and such it is doubtless intended to be. Such an indirect shot is no doubt ingenious, but scarcely generous while the recipient is still smarting under the public reprimand lately administered to him by the Presi-

dent of the college (Sir Wm. Jenner) in the presence of the assembled Fellows. This was for Dr. Heywood Smith's conduct in reference to the now notorious Armstrong case. In a series of sensational articles, the editor of the *Pall Mall Gazette* (Mr. Stead) had asserted that girls (virgins) could be openly purchased for immoral purposes, and followed up this general assertion by narrating in detail the history of "Lily" Armstrong, who, he said, had been sold by her mother for immoral purposes. It subsequently transpired that Mr. Stead's agents had deceived him, and that the mother had been induced to part with her child under false pretences. Mr. Stead took the child to a midwife for examination as to virginity, and subsequently to a brothel, where he remained some time with her, though for what purpose does not appear, except probably to manufacture material for some more sensational paragraphs. From thence the child was taken to Dr. Heywood Smith's house, where she was again examined (this time under chloroform) by Dr. Heywood Smith, at Mr. Stead's request, with the object, avowedly, of protecting the latter against any charge which might be subsequently brought against him. For examining the girl under these circumstances Dr. Heywood Smith has been severely censured, both by the judge in the recent trial and by the President of his college. It certainly seems unjust and ungenerous to add indirect censures to those he has publicly received. He is widely known as a high-minded Christian physician, and no one doubts that, however imprudently he may have acted, his motives for his conduct in the Armstrong case were at any rate good. I wish all his detractors may be conscientiously able to say as much of their own.

WOMEN AND BEES.

To the Editor of The Medical Record.

Sir: A correspondent, in your issue of January 16th, p. 81, writes as follows: "If we go to the bee for information we find that the same egg, according to its environment, will develop into a neuter gender, the worker; or a fully developed female, the queen bee; or into a more highly developed being, the male or drone." It is to be regretted that your correspondent did not speak sooner, so that our text-books of physiology might have been differently compiled. "Herman's Handbuch," for one, need not then have been so radically wrong. In vol. vi., part 2d, p. 161, of this work, Hensen tells us that among bees unimpregnated eggs are those that produce males. The young queen who has never been fructified, and the old queen whose spermatic receptacle is empty, both produce broods consisting of drones only. We are told, further, that this result, humanly so desirable, is considered a disaster in the bee community, and that efforts to rear a queen by changed environment of the immature drone is then persistently but ineffectually made. Seibold also thought that he had observed that the ova which developed into drones contained no spermatozoa, while in those which developed into females spermatozoa were found. The reason why the impregnated female ever produced drones was, in his opinion, owing to the greater size of the drone's cell, which permitted the entrance of her ovipositor without compression of the abdomen. Into the other cells, on the contrary, she entered with difficulty, and by purely mechanical action semen would be expressed from its receptacle and impregnation occur.

Until the advent of your correspondent, among the bees, at least, the female was not considered an undeveloped drone. Whether her constitution were thereby dwarfed or complicated, she was the product of the egg capable of producing the drone, plus elements from without. The occurrence of hermaphrodite individuals among bees was even supposed to strengthen this view, and it was said that in this case the male development had already commenced before impregnation occurred, and hence its tendency could not be completely changed.

Another point in this connection is also somewhat new. Your editorial of December 2d credits Mr. Terry with saying that the existing and increasing excess of females over males in all the fully settled portions of the country is due to a gradual decline in the strength of the mothers. Quoting again from Hensen: In Europe, out of 5,900,000 births, boys were born in the proportion of 106 to 100 girls; and even during the past year, in this city, there were born 15,534 boys to 14,503 girls, or boys in the proportion of 107 to 100 girls. Evidently Mr. Terry does not live in New York. As you tell us that he has statistics to prove his point, it follows that there is a part of the country where girls are being produced in excess. To the future physiologist this will be an interesting fact.

The proposition that in the case of physical debility in the wife female children result, is another remarkable statement. By coupling this with the statement that the more sickly the wife the more debilitated the children, female and debilitated are made synonymous terms, and yet in a previous paragraph it has been already statistically proven that girls are comparatively hardy, while boys die of debility and marasmus at an excessive rate. Hensen is deficient in this matter also. He makes no mention of woman's increasing weakness as a cause of this disproportionate mortality of baby boys. Apparently he was misled by finding the same tendency among animals, such as the sheep, the dove, and notably among frogs. The brief life of the male insect also possibly had its influence.

Hensen says (p. 208) males predominate where the ova have less vital force. Spermatozoa antagonize this condition; they make the egg "entwickelungsfähiger," and increase the number of females. He says further (p. 168), impregnation has no part in the generation of the embryo. The spermatic bodies but assist or modify its development, and all are familiar with the fact that segmentation occurs in the sterile as well as in the impregnated egg.

Dr. Heitzman has suggested that where the male is developed more spermatozoa penetrate the ovule, and that where the female is developed fewer spermatozoa penetrate the ovule. Hensen takes the opposite position, namely, that more spermatozoa are utilized in the production of the female than the male. The impregnation which results in the male is supposed to occur later in the history of the ovule, while the impregnation which results in the female probably occurs shortly after the ovule's escape. This proposition is in harmony with Thury's law, and with the practice of many breeders. Dr. Heitzman's conclusion is based upon it, his deduction being, that because the ovule is at that time high up, but comparatively few spermatozoa will be able to reach it. Dr. Heitzman, however, ignores the part of the woman in the sexual act. The commonest complaint of the sterile woman is, "Doctor, I do not keep it. Ought I not to keep it? It runs away from me when I get up." The majority of intelligent women know when they become pregnant. This subject is a new one, but peristalsis of the vagina has been established; the uterus is known to contract under reflex stimulation, especially when applied to the anterior vaginal vault; and it only remains to suggest that the diaphragm is in a position to act as the piston of a suction-pump, the force of which would be exerted upon the contents of the uterus through the Fallopian tubes. Experiments showing how soon after intercourse spermatozoa can be found upon the ovaries will be needed to establish this function; but where all is guess-work it seems not improbable that, at least in the conception of girls, the semen is carried mechanically to the ovule and reaches it at an early date. It may be significant that the conditions at the time of ovulation are favorable to a successful orgasm from the general congestion of the parts.

Hensen's view is not opposed by the fact that the drone is longer in the cell and the male is longer in utero than the female. This retention can result simply from greater size. The horse also remains longer than the boy, and the elephant longer than the horse.

If it be borne in mind that orgasm in the woman is, as a rule, reflex, it will be seen that Hensen's view is not opposed even to the apparent action of Mr. Terry's law.

Hensen's view is also favored by the facts brought out by Dr. Stockton-Hough (*Am. J. Obst.*, February, 1886), namely: That illegitimate children are more frequently girls; that first children are often girls; that conception follows more closely upon marriage, as a rule, where a girl is conceived; also, that female births succeed one another more quickly than male births do. Each of these facts would be completely explained were it assumed that the mother was in a more responsive condition at the time of the intercourse from which the girl was conceived, and Dr. Hough's elaborate deductions would be rendered unnecessary.

Mr. Terry's explanations and Dr. Stockton-Hough's explanations will, however, undoubtedly carry weight, and if they are to result in facilities for the better physical development of any future mother, the present writer will not oppose them. She will simply call the attention of these reformers to a field for work. A contributor to the February number of *Harper's Monthly* tells us that manual training, such as wood and metal work, is being added to the common-school course for boys, and that sewing is being introduced in girls' schools in all grades. It is reported that the boys who formerly would break down toward the close of the term, now go through the year without suffering in health. It is not said what effect the sewing is having upon the girls. Being, as we have seen, pretty hard to kill, they will probably not break down, but will come out with but an exaggeration of the weak voice and the narrow flat chest of the present American girl. To make a seamstress they will have spoiled the mother of future men. If he thinks it over, Mr. Terry will realize that it is not deficient passion in the mother, but deficient breathing-room that cripples his boys. Their nourishment fails, not because her mammary glands are defective, but because her blood cannot furnish the materials from which milk is made.

Would it not be better to keep the sewing out of the schools and to put in its place singing, or something else which will increase instead of diminishing the working capacity of the chest? Properly clothed the girl can handle the plane and use the hammer with as good a result, so far as health is concerned, as the boy, and with as much pleasure in the work.

I will but add an extract from a letter recently received. I will explain that this letter is in the line of this discussion, as it has to do with the disposal of one or more of this surplus female population concerning which complaint has been made. The letter is from a woman, a recent graduate of medicine, and is dated from Bombay, India, where she went about six months ago on her own responsibility, and without promising allegiance to any missionary board. The letter reads: "I have safely arrived in Bombay, as you see, and like the city and climate very much. I find plenty to do. When I arrived here I had used nearly all my money up on the journey, but I soon got patients among the Europeans, although there are already two other women physicians here. I am now able to pay all my expenses, with carriage hire, etc.; but I learn that even here I do not do as well as I might up in the interior of the country. I think that others would do well here. Lady Dufferin is raising a fund to help women physicians to come to India. She can be written to as Her Excellency the Countess of Dufferin, Government House, Calcutta, India. In making an application, testimonials should be sent."

Mr. Editor, with your permission, I will sign myself,

A WOMAN.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 31, 1886, to February 6, 1886.

BROWN, H. E., Major and Surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Department of the Missouri. S. O. 29, A. G. O., February 4, 1886.

VICKERY, RICHARD S., Major and Surgeon. Assigned to duty in connection with the Army and Navy Hospital at Hot Springs, Ark. S. O. 24, A. G. O., January 29, 1886.

WHITE, ROBERT H., Captain and Assistant Surgeon. Granted two months' leave of absence, to take effect when his department commander may think proper. S. O. 29, A. G. O., February 4, 1886.

CHAPIN, A. R., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Robinson, Neb., and ordered to rejoin his proper station, Fort Laramie, Wyo. S. O. 11, Department of the Platte, February 2, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 6, 1886.

BABIN, H. J., Surgeon. Ordered to U. S. S. Vandalia.

DIXON, W. S., Surgeon. Ordered to Marine Rendezvous, New York, to relieve Surgeon Babin.

WHITING, ROBERT, Passed Assistant Surgeon. Ordered to U. S. S. Vandalia.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 6, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
February 6, 1886	1	6	52	2	7	89	5	0
Deaths.								
February 6, 1886.....	1	2	14	2	1	31	1	0

A CURIOUS CASE OF HICCOUGH.—Dr. Charles Liégeois reports a case of singultus occurring suddenly after mental excitement in a woman, and continuing day and night for over three weeks. Milk and bouillon which were given for nourishment were retained on the stomach. Various remedies were given without result, until, on the twenty-fourth day, Dr. Liégeois ordered large doses of chloral and hyoscyamine. During the sleep which followed the hiccough ceased, but returned as soon as the patient awoke. From this time it gradually became less troublesome, and finally ceased entirely, except for short periods following some mental excitement or the ingestion of food. Some months later an abscess appeared in the right epigastric region, and from the opening formed nine needles were extracted. From that time forward the patient was entirely freed from her attacks of singultus. She maintained that she had no idea how the needles had entered her body.—*Journal d'Accouchements*, December 30, 1885.

THE DEATH-RATE AMONG THE RICH IN LONDON is from 12½ to 25 per 1,000. Among the poor it is from 25 to 35½ per 1,000. The average duration of life of the well-to-do in England is 55 years; among the artisan class at Lambeth it was 29½ years.

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The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 8 NEW YORK, FEBRUARY 20, 1886 Whole No. 798

Original Articles.

BACTERIOLOGY AND THE GERM THEORY OF DISEASE.[1]

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CINCINNATI, O.

"NATURA in minimis maxime miranda"—"Nature is most wonderful in the least of her creations." Truly no more fitting motto could herald the introduction to a subject which has of late seemed to grow in directly inverse ratio to the size of the objects it considers, and which leaves us to-day, after the accumulated evidence of centuries of observation and of painstaking work, just within the vestibule of a science with illimitable vista and boundless possibilities. Hinted at for many years by those whose genius or study lifted them above the plane of their scientific colleagues, it was met by ridicule, scorn and derision, rather than by argument and reason. Facts and theories were alike discarded as being totally unworthy of consideration, much less of belief, and the advanced skepticism of the day did not allow its votaries to entertain the possible truth of a doctrine which seemed, on the face of it, to have so little in its favor.

That the process of evolution, after having through many, many ages continued its undeviating, harmonious action for the highest development of its primitive forms, should have resulted in such an example of perfection as the human body, with its manifold wonders of mechanism and tissue change, was to the scientific mind evidence of the potency of a divine and simple law; but, until within the last few years, these same minds were not prepared to see the completion of that law in the return of the body to its inorganic elements through the restless activity of bodies whose dimensions are almost more than microscopic, and whose organism presents a simplicity of structure which ranks them with the lowest types either of animal or vegetable life.

To us, as physicians, the subject possesses an interest greater by far than the love with which every student of nature follows the new revelations of her mysterious processes. The medicine of the future, as has been well and wisely said, shall find its proper study in the prevention rather than the cure of disease, and we cannot remain indifferent to a study whose aim it is to show that many of the most disastrous morbid processes are so intimately associated with the growth of microscopic life, that we are as yet uncertain of the exact relation between the two. We are not in position to deny that the germ is the cause of disease, but we are not more able to absolutely prove such causal connection, and the most that has been gained for the present is the proof of the frequent, in some cases, constant, coexistence of microscopic organism, and some definite diseased condition.

It is always a matter of interest to trace from their earliest beginning the various steps through which any department of science has reached that degree of completion which makes it serviceable to man; and it would, perhaps, well repay us were we to devote our attention to this part of the subject; but the time is limited, and we are far more interested in what may be called the practical acquisitions—those parts of it which have already passed beyond the domain of speculation and now have secured a firm basis of fact—which are already employed in the detection and cure of disease, or give promise of being thns employed. But no study of the germ theory of disease, or of bacteriology would be complete which would omit a grateful mention of the names of Pasteur, of Lister, Tyndall, of Davaine and Koch. It is not that to these illustrious men is due the only credit, but their names stand out pre-eminently, and will ever be associated with this subject when many others, whose steady application and laborious plodding have contributed so much to its successful unravelling, shall have again been veiled in obscurity.

There seems to be but little relation between the preventive vaccination against *rabies* or *anthrax* and the laws of crystallization of chemical salts; the one being a purely physical process, the other dealing with the most intimate changes of living tissue, the hidden chemistry of the body; and it would have been a more than prophetic vision that would have declared, forty years ago, that there should grow from the laboratory of the Paris school a vast field of study with no lower aim than the successful solution of the causes of disease, and the no less successful discovery of a cure. It was at that time that Pasteur was making his studies of the paratartaric acid; it was at that time that he found that solutions of this salt could, under given conditions, be made to yield two kinds of crystals, one of which deviated the plane of polarization to the right, the other to the left; it was then, also, that he discovered that the introduction into the solution and the multiplication there of microscopic organisms would leave the solution entirely barren of *one* of these salts, which had evidently served as nutriment to the rapidly increasing organism. It was shown to be a constant phenomenon, and by thus first calling attention to the selective agency of these little organisms, it laid one of the great foundation-stones for the subsequent structure.

This discovery was followed, not long after, by the no less important one of the acetic ferment, the ferment of wine, of beer, of lactic and butyric acid. The idea first suggested was quickly followed out, and surprising changes effected by the discoveries in some of the most important and profitable industries of France. The wonderful results that followed the detection of the silkworm disease were not unimportant in their bearing on our subject, since they showed that a disease of the parent, due to the introduction of a living parasite, would manifest itself in the offspring by symptoms of impaired and rapidly-failing vitality.

At the same time that France was showing such remarkable advance in scientific inquiry, Lister, across the Channel, was pursuing a line of study widely different, to all appearances, yet leading to the same result. The process of fermentation in its relation to the development of micro-organisms, and at the same time to the development of unfavorable conditions in open wounds, occupying such a leading part in hospital management, was certainly not an unworthy subject of research. The work of Lister, as it bears upon the so-called antiseptic method, is really part of the medical gospel of the day. No text-book omits the mention of his name, and while increased experience has clearly shown the inutility of many of the details of his complicated method, the underlying principle stands fast as the great triumph of modern surgery. The exaggerated and overscrupulous care in the management of all solutions of

[1] Read before the Cincinnati Medical Society.

continuity was necessary, perhaps, to arrest the attention of surgeons and of the general profession to the hidden danger that lurked in every breath of air, and it was reserved for Tyndall to clearly demonstrate the myriads of living forms that travelled in every sunbeam.

There followed then the fruitful studies of Pasteur and Davaine on septicæmia, and the researches of Koch on traumatic infectious diseases. Their bearing on the present aspect of the science cannot be overestimated; they furnished proof of undoubted connection between the disease that was consuming the organism and the parasite that was always found in the diseased tissue; they made the cultivation-experiments, and from their purely artificial cultures obtained the same results as those which followed the inoculation of the virus, clearly establishing the identity of the organisms under both conditions.

There is even a more remarkable tie that binds our present subject with one of older date, also seemingly widely apart from any such delicate manipulations. The discovery of the aniline colors may be really said to have given the greatest impetus to labors that, without their use, would have proved, almost certainly, barren of result; and again we find verified, in this particular, a saying of Waldeyer, that advance sin histology are marked by the introduction of new coloring matters, and the ultimate anatomy of any tissue is finally revealed to us through the agency of *the* particular staining fluid for which individual details have a greater or less affinity. To-day, with many other means of research at command, the peculiar reactions with different aniline dyes constitute an important element in the distinction of microorganisms resembling each other in nearly all other particulars.

It is not our province to speak of the methods of cultivation, nor of the facts revealed in this way; and we enter at once upon the proper consideration of what is meant by bacteriology. To define it by an almost similar term, it is the science which treats of bacteria; and *bacteria*, according to the definition of Dujardin-Beaumetz, "including in this word all the microbes or figured ferments, are certain minute living forms, placed on the confines of the animal and vegetable kingdoms." At the present day the general view is to regard them, as first suggested by Cohn, as vegetable organisms. To simplify their study many schemes of classification have been suggested. The first and very incomplete one of Ehrenberg has been entirely discarded, and the view of Nägeli and Barry, that they were moulds, is at variance with that of Cohn, who regards them as more closely allied to the algæ than the fungi. The very elaborate classification of Cohn, resting upon a purely morphological basis will, in all probability, not hold for many more years; and until we shall know more of the so-called life-conditions, the circumstances which favor or retard their growth and reproduction, it will be impossible for us to give this microscropic world a comprehensive and rational scheme, like that which governs our study of other branches of natural history.

At the very outset, we encounter divergence of opinion on a most important point, as to the resemblance of parent and offspring—Klebs upholding the view that such resemblance always exists, Cohn holding that many different forms, depending for their individuality on surrounding circumstances, may owe their origin to the same parent. The physiological basis, that which treats of these bodies in reference to the results of their activity in and outside of the body, is the only one that offers itself as satisfactory, but our knowledge is too limited to enable us to make from this a comprehensive scheme.

Morphologically, Dujardin-Beaumetz, whose valuable contribution has furnished much of the material of this sketch, recognizes six forms: (1) Monad, micrococcus, or moner, immobile point-like microbes, often regarded as spores. (2) Bacteridia and bacillus, immobile linear microbes. (3) Bacteriens, cylindrical mobile microbes, the end rounded, or the body indented in the centre, so as to form a figure of 8. (4) Vibriones, eel-shaped, undulating, mobile, and flexuous microbes. (5) Spirilla and spirochetæ, corkscrew-like, spirally moving microbes. (6) Capitated microbes, *bacterium capitatum*, being mobile rods, with one or both extremities long, globular, and more refractive than the rest of the body.

This classification has reference to the cells as seen singly or in very limited numbers, when aggregated so as to form colonies there are distinguished four forms:

1. Torula, in the form of a necklace, composed of micrococci.

2. Leptothrix, made up of bacteria, clustered end to end.

3. Mycoderma, immobile, composed of bacteria in sheets.

4. Zoöglœa, being masses of bacteria, immobile, inclosed in a sort of jelly which holds them together.

Pasteur again has divided into two grand classes all these little organs, the aërobiens, which are not ferments and require the ready access of free oxygen, the anaërobiens, or ferments which abstract from their culture-medium the oxygen necessary for their life, thereby giving rise to the fermentative changes, or decompositions; because in fermentation the resulting compounds are always simpler in chemical composition than the parent substance, liquid or solid. This theory as to the action of the ferments has, however, received some very severe shocks, and can no longer be deemed secure. Thus it was shown that in the fermentation of sugar the resulting products, alcohol and carbonic acid gas, etc., contain together as much oxygen as the sugar; moreover, purely artificial chemical action, as of an acid, will produce alcohol from sugar in the same way. In addition, too, to this, the process of fermentation always goes on most readily where there is abundance of oxygen admitted, so that large, flat vessels with considerable surface-exposure yield the best results. This should not be the case were the attraction of the oxygen of the culture-fluid for the bacteria of fermentation greater than that of free oxygen.

It is under the name suggested by Nägeli, "schizomycetes," that the bacteria which stand in an immediate relation to morbid processes in the human economy are now most generally known. The nature of this relation has not as yet been determined in any case, though it constitutes the key to the entire question. The schizomycetes are nearly all possessed of the power of independent movement, which is in some cases very rapid. Mühlhauser has measured it for the spirilla, and found it to equal one-third of a millimetre per second. Like nearly all other lowly-organized forms, they move toward light and air. The movement in many of these organisms is effected by a sort of cilia or flagellum, attached to one or both extremities, the mode of progression being usually by alternate flexion and extension of this process or of the entire organism; in the case of the spirilla by a helicoid rotation.

In the process of multiplication we find their numbers increase by simple fission. The parent organization divides into two parts, which may, or may not remain joined together, and each of these then undergoes a similar subdivision. When the separation does not occur, a number of single segments are united in a long chain, forming what is known as strepto-coccus or strepto-bacteria. In some cases, particularly where growth is very rapid, multiplication takes place by spores; when only one or two of these are formed, they are usually situated near the extremity of the parent organism and sometimes produce a sort of bulbous enlargement; if more numerous, they may be found throughout the entire length, and have under these circumstances given rise to the mistaken conception of a number of micrococci joined together. The spores seem to possess much greater powers of resistance than the parent; neither alcohol, boiling heat, nor compressed oxygen interfere in any way with their vitality.

These asexual spores or "corpuscle germs," are most prone to develop in just those conditions which render

the direct multiplication by fission difficult or impossible; and they thus, in a measure, constitute a safeguard against the extinction of the species.

The influence of temperature on the life processes of bacteria is most marked. Nearly all of them are destroyed in a very short time by high temperatures.

Koch and Wolffhügel, as the outcome of a number of most carefully conducted experiments, report the following conclusions:

1. Bacilli without spores are incapable of withstanding the influence of an atmosphere heated to 100° C. for *one* hour and a half.

2. Spores of the fungi require for their destruction a temperature of 110°–115° C. (220°–230° F.) continued for one hour and a half.

3. Spores of bacilli are only destroyed by remaining for three hours in an atmosphere heated to 140° C. (284° F.).

4. In a heated atmosphere the heat enters the objects to be disinfected so slowly that after exposure to 140° C. (284° F.) for from three to four hours, objects of moderate dimensions, such as a bundle of clothes or a pillow are not yet disinfected.

5. The application of such a heat, 140° C. (284° F.), for three hours or more, as is necessary for complete disinfection, is more or less injurious to most textile fabrics.

In another essay of the same collection it is stated that in all cases where heat is at all applicable as a means of disinfection, the method of employing steam and closed apparatus is much to be preferred to any other method. Generally, as stated by Dujardin-Beaumetz, the bacteria are destroyed by a temperature of from 144°–160° F.

The bacteria do not flourish equally well in all culture-mediums, and the differences in this respect have frequently been relied upon, where other criteria were absent, to decide the question of the unity or dissimilarity of otherwise similar forms. It has been argued that the same parasite will at all times thrive equally well upon the same kind of sustenance, and that, other physical conditions being the same, the results in culture experiments should be the same. Reference has already been made to the splitting up of paratartaric acid, and instances might perhaps be multiplied to show that if a given solution be prepared containing the proper food of a certain bacterium, and many other substances in addition, only that substance will be consumed for which the affinity of the organism is well established. Quoting from Dujardin-Beaumetz, "the differences between the respective living ferments, such as the alcoholic, tartaric, and acetic, etc., are of just this character, that each, according to its own constitution, thrives on some particular nutrient ingredient, which it assimilates and disassimilates at will, while it dies in another medium not suited to *it*, but which is perfectly suited to some other ferment organism. In like manner the pathogenetic action of the schizomycetes is limited to this power of organic disintegration, in which they act the parts of ferments in furtherance of their own nutrition."

It is not long since that Brieger discovered in the human cadaver a number of organic alkaloids to which he gave the name of Ptomaines, and which he found to possess the greatest virulence, and to resemble in chemical reaction many of the more powerful vegetable poisons. Now it has been found that such ptomaines are formed where bacilli are undergoing rapid proliferation, and the theory has been advanced to harmonize many antagonistic views, that the bacterium is the cause of disease through the intervention of the ptomaine, which is itself the product of the bacterium. This theory would explain many experimental results, such as those of Rosenberg in pyæmia, where a culture-fluid was artificially filled with bacteria, the fluid carefully filtered, the filtrate found to be devoid of living organisms, and yet when injected hypodermatically this same fluid was found to be as potent in the production of the characteristic changes of pyæmia as though the specific micrococci had been present. It would be easy to determine which of the two—the bacteria or its soluble product—is the cause of disease, were it possible to isolate the two completely; we can obtain the pure ptomaine in solution, but we cannot conceive of the bacterium freed from the ptomaine. Were we to accept this theory, we could also explain satisfactorily the results obtained by Koubasoff "on the passage of pathogenetic microbes from the mother to the fœtus, and their occurrence in the milk. He has formulated the results of his experiments in a note recently addressed to the French Academy of Sciences as follows:

1. Bacilli of charbon, of rouget, and of tuberculosis, when inoculated into a recently delivered female pass into the lacteal secretion.

2. When they have once appeared in the milk they remain there to the end of lactation and to the death of the mother.

3. Fœtuses nourished with milk containing the bacilli of charbon, of rouget, or of tuberculosis do not take the disease, and remain alive even when their mothers die of the disease.

4. The passage of microbes from the mother to the fœtus probably depends upon the existence of direct communication between the maternal and fœtal vessels in the placenta. It would not require the entrance of the formed organism to produce the fœtal disease, if, according to the view above indicated, a soluble poison passed with the nourishing blood by osmosis through the vessel-wall.

Bacteria of various kinds are constantly found, not only in the earth, air, and water surrounding us, but in all cavities of the body itself, and one enterprising observer, Stahl, found only twenty-five different and distinct forms of micro-organisms in the intestinal contents, including several varieties of mucedo, yeast, micrococci, and bacilli; and the author seriously states that if he had only tried he would probably have found several more.

I do not propose to enter into a separate and detailed study of the single diseases in which bacteria have been found to play a rôle; such a course would lead us far beyond the legitimate limits of this paper, and it will suffice to enumerate anthrax, chicken-cholera, the swine plague, hydrophobia, pébrine of silk-worms, flacherie of silk-worms, septicæmia, pyæmia, puerperal fever, malarial fever, recurrent fever, pneumo-enteritis of the hog, small-pox, glanders, sheep-pox, measles, scarlet fever, erysipelas, yellow fever, typhoid fever, cholera, croupous pneumonia, gonorrhœa, syphilis, diarrhœa and dysentery, ulcerative endocarditis and tuberculosis, to show that the list embraces quite a respectable part of those diseases which are of almost daily occurrence, and come under daily personal study. For a few of these, as for chicken-cholera, anthrax, and tuberculosis, the association of the bacillus and the diseased process is fairly proved; but for the others, a weight of most conflicting testimony can be gathered. I cite only two examples, syphilis and pneumonia. The idea of the parasitic origin of syphilis was strongly upheld by Lostofer, of Vienna, some twenty years ago, and it again falls to the lot of Vienna to claim the discoverer of the modern germ. On the 12th of November, 1884, Lustgarten reported to the Imperial Society of Physicians his discovery of the bacillus of syphilis; and subsequent researches seem to have confirmed its existence, if not its specificity. Such confirmatory evidence was furnished by Doutrelepont and Schütz, Lustgarten's later studies, by Giacomi, and finally the test-experiment of Babis and Leloir, which showed the presence of the bacillus in microscopic sections of chancre, mucous patches, and in the secretions from syphilitic sores, properly dried and stained.

No cultivation experiments to determine its specific identity had as yet succeeded, when Alvarez and Travel undertook a series of researches in the laboratory of Cornil. They examined a number of sections made from eight cases of syphilis (five hard chancres, two mucous

patches, and one gumma), and were not able to find the bacillus; and in twenty-two cases out of fifty-five preparations of syphilitic secretion the result was negative. Moreover, they discovered bacilli like the syphilis bacillus of Lustgarten in a number of non-syphilitic secretions, in cases of soft chancre, of genital herpes, of pemphigus of the thigh, and more especially present in the smegma. This bacillus of smegma has also a great resemblance to that of tuberculosis, especially in regard to its reaction with staining fluids. It differs from it in being thinner, less granular in aspect, frequently having an S-shaped incurvation, and in its polymorphism. Like other experimenters, Alvarez and Travel have not been successful in obtaining cultures.

We have here two opinions, or rather observations, that flatly contradict each other, on a subject that is constantly being most thoroughly studied. How is it with pneumonia?

In 1883 Friedländer described his micrococcus of pneumonia, or pneumococcus, as being a body of elliptical form and giving certain reactions with fuchsine and gentian violet. In later publications he lays less stress on the form of the microbe, and attaches a pathognomonic value to a sort of mucous capsule which surrounds it, and which, he says, is always present in the microbes of frank or fibrinous pneumonia, but not present in other forms of pneumonia, where we may have micrococci but no capsules surrounding them. He even describes empty capsules, from which the coccus has escaped. And now comes Dr. George Sternberg, probably the most competent authority on the subject in this country, and sums up the data of a rather lengthy but interesting article as follows:

"The pneumonia-coccus of Friedländer is identical specifically with the micrococcus previously described by me, and which is commonly found in normal human saliva. The capsule, or mucous envelope, which sometimes surrounds this micrococcus, described by Friedländer in 1883, and photographed by me two years previously, *cannot* be accepted as a distinguishing character of this species, inasmuch as it is not constantly present, and the circumstances upon which its development depends have not been accurately determined. It is established that it is a pathogenic organism, so far as certain lower animals are concerned, and that its pathogenic power varies under different circumstances. It seems extremely probable that this micrococcus is concerned in the etiology of croupous pneumonia, and that the infectious nature of this disease is due to its presence in the fibrinous exudate into the pulmonary alveoli."

But this cannot be considered as definitely established by the experiments which have thus far been made on the lower animals. The constant presence of this micrococcus in the buccal secretions of healthy persons indicates that some other factor is required for the development of an attack of pneumonia; and it seems that this other factor acts by reducing the vital resisting power of the pulmonary tissues, and thus making them vulnerable to the attacks of the microbe. This supposition enables us to account for the development of the numerous cases of pneumonia which cannot be traced to infection from without. The germ being always present, auto-infection is liable to occur, when, from alcoholism, sewer-gas poisoning, crowd poisoning, or any other depressing agency, the vitality of the tissues is reduced below the resisting point. We may suppose, also, that a reflex vaso-motor paralysis, affecting a single lobe of the lungs, for example, and induced by exposure to cold, may so reduce the resisting power of the pulmonary tissue as to permit this micrococcus to produce its characteristic effects.

Again, we may suppose that a person, whose vital resisting power is reduced by any of the causes mentioned, may be attacked by pneumonia from external infection with material containing a pathogenic variety of this micrococcus having a potency, permanent or acquired, greater than that possessed by the same organism in normal buccal secretions; the author then supplements these statements with a number of experimental observations to show the identity of the two organisms. It must be clear from this that the micrococcus cannot be the determining cause, and if it be not, what have we gained from our knowledge of its presence? Many means have been devised to protect, if possible, the human body from the malevolent agency of this specific micro-organism, which enters, none knows how, and which does such grave and irreparable mischief. Experiments have multiplied without limit to illustrate the remarkably effective action of the various antiseptics, and while one has extolled bichloride of mercury, and another carbolic acid, a third has found in sunlight a powerful germicide. It is not easy to see what benefit the profession is to derive from the fact that a solution of bichloride of mercury, in the strength of 1 to 20,000, poured over an artificial culture of bacteria will arrest their further development. It would be rather uncomfortable, aside from the actual difficulties of accomplishing this result, to move about continually in a *nebula* of bichloride spray, as though every man were his own atomizer.

To the indefatigable, indomitable spirit of Pasteur we are again indebted for the only results worthy of mention in this direction. Triumphing over physical difficulties which would in another have constituted a crushing blow to all energy, he has lived to see the closing years of his life equalling, if not surpassing, in their usefulness, any former period of his existence. The method of vaccination with attenuated virus has astonished the entire scientific world by the accuracy and trustworthiness of its results. The pasture-field of Mélun was the Austerlitz of his scientific labors; the results obtained in the case of charbon were further strengthened by the successful vaccination against chicken cholera, which preceded them only a short time, and as third in the list we have the verdict of a commission of inquiry, appointed by the French Academy, that the report of M. Pasteur, as to the successful vaccination against rabies, is in every way satisfactory, and amply borne out by experiments submitted to the commission. Any one of these achievements would have sufficed to fill the measure of an ordinary life; taken together with his previous work, they constitute a record of devoted usefulness that few, if any, have ever equalled, and whose practical value each succeeding age will the more fully appreciate and honor.

It was slightly in the nature of a disappointment to read over the lengthy report of the proceedings of the second Cholera Conference held recently at Berlin. Scarcely any new developments have attended the studies of the past twelvemonth. A very large part of the discussion was taken up by Koch's refutation of the attacks of Finkler, Prior, and Klein. It was only natural that the bacillus dinner of the last-named observer should have wounded the sensibilities of the genial patron of the comma-bacillus, and should have led to a reassertion of priority in the discovery, as well as of the authenticity of previously asserted facts. It is a point of some significance that Koch himself admitted a doubt as to whether there was any permanent form of the cholera bacillus.

It would seem that his argument was not entirely convincing, for von Pettenkofer still adhered to his old view, that the bacillus could not be the cause of the disease, as proved by the history of various epidemics; that cholera was not in any sense contagious, and that the rise and fall in the level of the subsoil water were points of great importance in determining the occurrence and severity of epidemics.

In rejoinder, Koch stated that direct contagion was rare, but that germs required clothing or some other material to perfect their growth before becoming noxious. Virchow also opposed the doctrine of direct transmission to man from the soil, as in the case of malaria, and sug-

gested as a sort of compromise that bacilli might grow in the earth, in agar-agar, and soiled clothing.

Nor was there any new feature brought out with reference to prophylaxis. Koch advocated disinfection of clothing, careful cooking of food, cleanliness, and the free use of carbolic acid, which seemed to him the best disinfectant. Von Pettenkofer cited the history of the epidemic of 1836, very mild in its character, during which scarcely any precautions were taken by the people of Munich and Bavaria in general, as the disease was then regarded as non-contagious, and he did not see any cause for anxiety, even though thorough disinfection could not be carried out.

In a communication made to the *Progrès Médical* of last year, Babis states that in nine cases examined by him the comma bacillus was found almost every time in the fæces and in the material taken from the surface of the mucous membrane of the intestine. Artificial cultivations were made after the method of Koch, and on gelatinized plates, and it was found that the development begins at a temperature of 70°, fifteen to eighteen hours after the beginning of the experiment. After twenty hours we find the characteristic appearances. In the development the following appearances are easily recognized with a magnifying power of ten diameters: In the centre there is a point formed by a mass of dust, around it a first granular circle, and outside of this a second, more clearly defined, more granular circle. Between these two circles the gelatine is liquefied, probably the result of the chemical changes due to the bacilli.

These cultures have a more yellowish appearance than the cultures of other microbes of the fæces, they are more transparent, their circles are larger, their central point smaller. After thirty hours several cultures unite, and finally become entirely fused, the regular outline is lost, the gelatine is partially liquefied, and little flakes float in it If we inoculate a gelatine tube with platinum the culture appears two days later as a grayish mass, with excavated granular surfaces, conical in shape, the apex directed toward the base of the tube, with a whitish globular prolongation at its tip. If the gelatine be very concentrated, a bubble of air will always form at the surface, and the characteristic form appears below.

Cultures were also made on milk, coffee, meat, carrots, vegetables, eggs, bouillon, and potatoes. The bacillus does not grow on fresh, boiled, or dried fruits, on acid liquids, on beer or wine, on preserves containing but a small amount of liquid, on cheese, on salt or smoked meat. The bacilli, when dried on a slide, die after twenty minutes. Unless the culture-medium be thoroughly sterilized the bacillus develops badly or not at all.

By using agar-agar in place of gelatine, cultures can be obtained in ten hours, but these are less characteristic than the gelatine plates. Beef serum gives opaque, globular, but still characteristic cultures. Distilled water is not a favorable culture-medium, as neither bacilli nor other effects of inoculation are apparent after twenty-four hours.

In liquefied gelatine we find that after twenty-four hours the bacilli are animated, and perform very decided movements, oscillatory in character, like those of spermatozoa.

In regard to morphology, we find that they are readily colored by diluted methyl-violet (1 part to 200). After ten hours on agar-agar, the culture-bacilli, though smaller than the fully developed organism, are already curved. After twenty hours we find bacilli measuring 0.4 mm. to 0.5 mm. in thickness for 1.5 mm. in length. It is particularly by adopting this device that the bacillus looks like a comma with concavity and convexity; one end is often thrown upon the end of the next adjoining bacillus, so that the two frequently remain joined like the letter S.

I would especially refer to one sentence of this admirable description. "Unless the culture-medium be thoroughly sterilized the bacillus develops badly or not at all." Where in nature do we find sterilized media? What collection of water affords, under these conditions, a favorable nidus? For, according to Koch, it is the pollution of the water which is the principal cause of the spread of epidemics; and I refer just to this one instance to point out how little has been gained of the natural laws of life of these organisms, when left to those surroundings which nature has given them. Neither the soil, nor air, nor water are ever sterile, and yet, if we are to accept the bacterial origin of cholera, we must look to one of these as the temporary abode of the organism, where its development and multiplication occur.

In the introduction to the one hundred and first volume of his celebrated *Archiv*, Professor Virchow, in an article entitled "The Struggle of the Cells and the Bacteria," says: "The intellectual movement is now so active, the number of new questions daily coming to the surface so great, the multitude of experiences of all kinds so confusing, that it might seem indicated to issue a new watchword, to point the direction according to which this colossal accumulation of material shall be arranged." Referring to the tendency of all scientists to subvert every other doctrine to the action of physical and chemical forces, a doctrine which prevailed about forty years ago, when the *Archiv* first appeared, he says that then particular courage was necessary to think of life as something apart from purely physical or chemical processes. Further on we find the following: "It matters little what the explanation, if any, that some later day may bring of the ultimate cause of life on a physical or chemical basis; plants and animals, cells and tissues will still have to be acknowledged to be peculiar arrangements of complicated structure, entitled to be considered and judged of according to their own proper individuality." "The hereditary character of life is now the basis of every system of biology." "The natural consequence of the studies in cellular pathology was a certain personification of the cell." Speaking of the enthusiasm created by the discoveries of organisms in such processes as the muscardine disease of silk-worms by Bassi in 1835, the parasite of favus by Schönlein in 1839, of muguet by Vogel in 1841, of anthrax by Davaine, Pollender, and Brauell in the period from 1854 to 1857, of variola and vaccinia by Keber in 1868, and of recurrent fever by Obermeier in 1873, he says, and says well, that a number of youthful explorers at once entered upon the field, and soon the world was full of remarkable discoveries from this *terra incognita*. Each new species was promptly heralded and three questions always came up for answer. First, there was the question as to the actual discovery of the parasite; secondly came the study of its mode of life; and thirdly, most difficult of all, how does it produce the disease? This third inquiry always brings us back again to the old pathology, and the cellular doctrine, of which Virchow can justly speak with pride as his creation, again asserts its right to the foremost rank.

"The proof of specific organisms is still wanting for a whole series of diseases, particularly for those which are most common, infectious, and contagious. And were this proof given, it would be but the first step in the recognition of the morbid process itself. What have pathology or therapeutics gained in the simple demonstration of a micrococcus or bacterium? Do we know anything more of the nature of recurrent fever since we have found the spirillum?

"The reversion to the old pathology is well exemplified in the history of phthisis. When Koch had discovered the tubercle bacillus, many thought that all the laborious research of the past was vain and superfluous. There was unity of the bacillus, ergo—unity of phthisis. But this beautifully simple scheme was of short existence. Pulmonary phthisis remains as it was, a multifarious process, beginning in a number of ways—now in the mucosa of the air-passages, now in the interior of the alveoli, now in the parenchyma of the lungs, and resulting in a variety of products, either simply inflammatory or specifically tubercular; and he who wishes to understand it

must learn something more than how to stain bacilli. The bacillus has added so little to our knowledge of the subject that we are now again arrived at the examination of those two indispensable factors, predisposition and immunity."

Similarly with leprosy, nothing has been gained in the diagnosis, prognosis, or cure of this disease. We will do well to pause at these words of the great pathologist. Do they not convey to us a serious, thoughtful warning? Is there not too marked a tendency to neglect all else in the eager search for more bacteria, more bacilli, more specific organisms, and hence specific diseases? Dr. Jacobi, in some very pertinent remarks at a recent meeting of the New York Academy of Medicine, said: "Obermeier found a bacillus in relapsing fever at a certain period in the disease, but it had not been proven that it was the cause of the disease. It had not been found in the beginning of the disease; but even if it had been found at that period, it would be doubtful whether it was the cause or whether the disease was due to causes which were aroused by the bacillus, or whether the bacillus was the result of the disease. He did not believe we were justified in saying that the bacillus of relapsing fever was the cause of the disease."

With regard to other diseases, microscopists had been anxious to find bacilli, and thus Gaffky had his bacillus, and Klebs had his bacillus, and so on. So with reference to diphtheria, Klebs had his bacillus, which he assured us was the cause of diphtheria; Eberth discovered his bacillus, which he also said was the cause of diphtheria; and even so cool-headed and sound a man as Gerhardt was led to make the statement, only a few years ago, that undoubtedly diphtheria was a bacillus disease; but as Klebs had discovered one bacillus, and Eberth had found his bacillus, he declared that it was probable that two different bacilli could be the cause of diphtheria.

These are no idle comments, and they may be regarded as an expression of a weighty, conservative opinion, that sees but too clearly how, in the first intoxication of a supposed great victory, the tendency may be to the extreme, and may lead to neglect of serious and pressing work.

Continuing with the article of Virchow, it is stated that "the name of the Struggle of the Cells and Bacteria has been applied by the author to that circumstance the clearing up of which is the actual object of medical studies of this class of diseases. We have here two living micro-organisms arrayed against each other. Both are endowed with independent life, independent activity, and independent strength. Which is the attacking party? How does it attack? These are the questions awaiting solution."

"It will be a problem for future study to determine more carefully than has yet been done the powers of resistance of the cells and the mechanism of their struggle for self-protection."

In closing he says: "We do not wish to underestimate the value of any pathological studies, but let no man forget that etiology is merely preliminary to the study of pathology, and pathology shall only be complete when the diseased process, that is, the entire course of the disordered vital activity, shall be clearly explained."

To those who have, like many of ourselves, regarded the rapid development of the science of bacterioloy with never-ceasing interest, and with as little bias as possible, though, at the same time precluded by outward circumstances from personally engaging in experiment, the many new discoveries have seemed almost bewildering. The difficulties were not lessened when experimenter No. 2 found some discrepancy in the experiments of No. 1, to be himself corrected and mildly denounced by experimenter No. 3, and so on; and it is only left for us to express the hope, while fully appreciative of all that has been done, while clearly conscious that enthusiasm is the main-spring of action in a field of study that begins and ends with the maxim "Patience," while eager, with the rest of the profession, to score another triumph for our modern medicine—it is only left for us to hope that an early day may witness the advent of that genius to whose clear and comprehensive intellect it shall be given to dispel doubt and darkness, and whose words shall be as the fulfilment of that first and greatest of divine commands, "Let there be light."

THE RADICAL TREATMENT OF VARICOCELE AND OF HYDROCELE,[1]

Reduced to what Appears to be Nearly Ultimate Simplicity.

By E. L. KEYES, M.D.,

NEW YORK.

In venturing upon a subject so trite as the radical treatment of hydrocele and varicocele, I have only to offer as an apology my own experience, and the uncomfortable road I took to reach a conclusion, and to state that the various reports of debates in societies,[2] the histories of cases, and articles in the medical journals upon these subjects that are constantly meeting my eye up to this date, show that the old-fashioned (as I consider them, clumsy) methods still prevail in the profession at large.

These minor maladies are annoying and of very common occurrence. Any one may cure them, and cure them radically, too; but to cure them neatly, promptly, and with little or no pain to the patient, a confinement of only a few days, perhaps no confinement, and with no annoyance to the surgeon—this end I believe has not yet been generally reached by the profession, and as an effort to attain such a result this paper is written.

I believe that any one who has enough surgical knowledge to make a diagnosis of the conditions I propose to consider, and enough mechanical ability to administer a hypodermic injection, can treat hydrocele and varicocele radically and safely by the methods I am about to advocate; and that those who have used other methods will find these more satisfactory to themselves and to their patients.

My personal experience is, as I have said, my reason for reaching this conclusion. I have been in close connection with the study and the treatment of the diseases of the genito-urinary apparatus in the male for the past twenty years. I have performed many, perhaps most, of those operations which are believed to be most suitable for the radical cure of the maladies we are considering. I have tortured my patients and have encountered, personally, annoyance, dissatisfaction, and discomfort in many instances while attaining the radical cure, until I adopted the methods I am now about to explain. Since then I have known comfort, and my patients have tasted peace.

To commence with varicocele. It would be idle for me, in the few minutes at my disposal, to enter at all deeply into the history of this malady, its causes or its symptoms, the innumerable operations proposed for its relief, or a consideration of such questions as the advisability of any operation at all, the risk of phlebitis, of atrophy of the testicle, and of failure to relieve the symptoms, even when the operation is carried to a successful issue. I must assume, in a given case, that varicocele exists, and that some radical operation is to be performed. What, then, is the best operation, and how is it to be done?

I must say here, however, that early in my professional life I was educated to look upon varicocele as a trifling physical irregularity, and its symptoms as mainly subjective in character, and due in great part to general nervous causes and to improper sexual hygiene. Added to this, I early encountered several cases where the radical opera-

[1] Read before the Medical Society of the State of New York, February, 1886.
[2] London Lancet, January 16, 1886, p. 109.

tion, performed by able hands, had failed in effecting a cure of the symptoms (of a nervous order) for which it was undertaken, and notably one case, in which ligation of the vessels by a competent surgeon had been followed by total atrophy of the testicle.

This deterred me for a time; but finally I was obliged to operate. My first efforts were directed toward curtailing the scrotum. This I soon abandoned. The patient had to be confined to his bed, generally for several weeks, and the final result was little better than what a suspensory bandage would afford; while the annoyance to the patient and surgeon were altogether too considerable to be repaid by the result. Then I went through several operations by ligature and silver wire, and by cutting open the scrotum and tying the vessels with catgut and dressing antiseptically; but the pain, or the suppuration, the annoyance, and the long confinement to bed, quickly dissatisfied me with all these operative manœuvres.

Then it was that I first attempted subcutaneous ligature of the dilated veins with catgut, led to it by my use of catgut in general antiseptic surgery; and since my first operation by this method I have never performed any other. I do not know who first ligated the veins of the spermatic cord subcutaneously, or when he did it. Doubtless many have done it, and probably before my first operation; I do not know. I have read somewhere that even carbolized silk was used on one occasion subcutaneously with good result, but I do not remember that I ever saw in print any description of any particular method of applying the catgut; and it is a method that I now propose to explain, since I personally have had a number of different needles made, and have applied the ligature in a variety of ways, and have found finally one method which I believe to be better than others. I have applied subcutaneous ligature with an ordinary straight surgeon's needle, and with various complicated double needles. In every case the operation has succeeded, but only one method has been satisfactory to me, and this I propose to describe.

My first operation was performed in the early summer of 1882. I kept my patient in bed a little more than a week. He recovered without suppuration or serious pain, and I sent him home to Pennsylvania during the second week. A year later he wrote, expressing thanks and attesting the satisfactory result of the operation.

This encouraged me, and I began to feel a new confidence in the operation and to perform it occasionally as cases appeared. I have operated upon a number of patients since the autumn of 1883—all in private life, no hospital cases—and I have uniformly had the same experience.

After the ligature is applied some pain is experienced, a hard lump enclosing the veins appears in twenty-four hours, varying in size from half an inch in diameter up to the dimensions of a pullet's egg. There is usually some scrotal ecchymosis, and generally a little tenderness of the testicle upon handling. I have never seen a single drop of pus. I usually give no medicine except a laxative when required. I make no local application, simply swinging up the testicle by a bandage to take the weight off the cord. Some of my patients have left the bed upon the second day. I try to keep them quiet for five days, and rarely do I find it necessary to give any anodyne whatsoever during the treatment. The hard lump about the veins subsides with varying rapidity while the patient is about, wearing a suspensory bandage. It is practically gone in a month (in cases of moderate swelling), but traces of it may be felt for a year or longer. I believe the veins to be always permanently occluded. I cannot say that suppuration or other complication is impossible when this operation is performed, for my dozen cases (or thereabouts) cannot justify such a generalization. But I have not yet seen a complication, and I believe that, with care in operating, better success with less probability of complication is promised by this operation than by any other I know.

The operative method is as follows: I have always used carbolized catgut, one-half millimetre in diameter (but I am contemplating the use of the finer, tougher, and more flexible whale-tendon). I have two varieties of needles, both straight needles in handles (Fig. 1), about size 4 of the French urethral gauge in the shaft. One has a lance-shaped point, the other a point like a

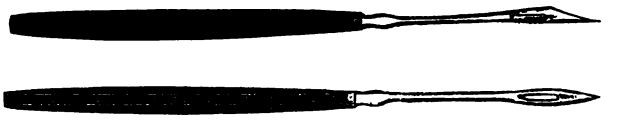

Fig. 1.

hypodermic needle. The former I prefer when any of the thickened tissues of the cord have to be pierced, the latter when a single large vein can be isolated from all other tissues—as is sometimes the case. Both needles have a long eye. The needle is threaded with a loop of silk, or thin whale-tendon (carbolized), and a piece of carbolized catgut.

The scrotum is to be thoroughly washed with a solution of the bichloride of mercury, one in one thousand, and all instruments, ligatures, and the operator's hands to be soaked constantly in the same solution. Ether is not admissible, as the patient must stand up. A few drops of a four per cent. solution of cocaine, thrown under the skin near the point of proposed puncture, will nullify the pain in the case of exceptionally nervous patients. Many people feel faint when any operation is done about the genitals, the cause being seemingly more moral than physical; for the pain of this operation is not severe. After the first puncture, faintness on the part of the patient is no bar to a successful completion of the operation, for the patient may be then placed on his back and the operation finished, with a certainty that the dilated veins are included in the ligature, if only the first puncture has been successfully made.

Fig. 2.—First Position of Needle, showing Loop, Catgut, and Tenaculum.

Fig. 3.—Showing Second Position of Needle, with Catgut passed through Loop.

The patient stands near the bed, in a good light. The veins which it is proposed to occlude are separated in the usual manner from the rest of the spermatic cord, at a point rather high up, where the separate dilated trunks may be made out as straight and not convoluted dilated channels. The big veins are pushed out toward the thigh of the affected side, and the scrotal tissues between the veins and the rest of the cord are tightly pinched by the thumb and finger of the operator's left hand, placed behind and in front of the scrotum.

Now the needle, properly armed, is boldly thrust through the scrotal tissues from before backward at the point pinched, leaving the veins on the outer side of the needle toward the thigh. The eye of the needle is made to emerge at the back of the scrotum. A tenaculum seizes the catgut ligature and pulls it out of the eye of

the needle, leaving it sticking out freely from the posterior wound alongside the shaft of the needle.

Now the point of the needle is withdrawn within the scrotum, leaving the catgut end outside. The veins are allowed to join the rest of the spermatic cord. The point of the needle is not to be withdrawn outside of the anterior point of puncture in the scrotum.

When the veins have passed internally to the point of the needle, the latter, still charged with its loop of silk or whale-tendon, is manipulated around externally to the veins under the scrotal integument, and is made to emerge accurately at the posterior hole, the original point of puncture in the scrotum. This is the most important step in the operation, and the only one at all difficult to execute nicely.

When the eye of the needle has emerged posteriorly charged with its loop of silk, the tenaculum again is called into play to loosen the loop and to draw through it the free end of the catgut which was left at the first puncture protruding posteriorly from the scrotum.

The parts are again dashed with the antiseptic bichloride solution, and the needle and loop (containing the catgut) are rapidly withdrawn.

Now it will be found that a few filaments of the dartos (or other tissue) just within the posterior wound in the scrotum are included in the catgut loop. These are torn away by simply holding the free ends of the catgut in front and pulling upon the scrotum behind (Fig. 4). The thin tissues will be felt to tear, and the patient will complain of a little pain.

FIG. 4.

FIG. 5.

Finally, the few hairs about the anterior wound are to be seized with the thumb and finger and pulled out—else they certainly will be tied into the knot and cause trouble—and the catgut (again drenched with bichloride solution) is tied tightly into a triple knot, cut off short, and the scrotum pulled away. The knot sinks out of sight, and the operation is terminated by placing small pieces of plaster over the minute points of puncture, if any blood exudes (Fig. 5).

If the operation is well done, in twenty-four hours it is difficult to detect the points of puncture.

The operation for hydrocele is even more simple, and is much easier to perform.

Again, I need not dilate upon the radical methods in common use—the injection of iodine, laying open the sac anteriorly with the knife, or its modern modification, the so-called Volkmann's operation. All of these and many others I have done frequently, and have been dissatisfied on account of the pain suffered by the patient, the dirtiness of the operation, or the necessary confinement to bed—amounting often to several weeks.

Since Dr. Levis,[1] of Philadelphia, some five or six years ago, made known the excellent qualities of pure deliquesced carbolic acid as an injection for the (comparatively) painless and very certain cure of hydrocele, I have employed no other material in any case of simple hydrocele of the tunica vaginalis, or of spermatocele, or of encysted hydrocele of the spermatic cord. I have never produced suppuration. I have never yet failed to effect a radical cure. I have operated in one instance upon five cysts of the cord (three on one side, two on the other), in a man of sixty five years, throwing in two and a half drachms, all told, of the pure acid, half a drachm in each cyst, keeping my patient in bed only two days, and curing him radically at one sitting. I have occasionally treated and cured a patient without sending him to bed at all, and I have not had any serious accident. I have occasionally seen considerable pain on the second day, with sharp inflammatory reaction and prompt re-accumulation of fluid, which I have considered it prudent to draw off with the aspirator; but this and a poultice has always relieved the inflammatory tension, and suppuration has never occurred, or any evidence of carbolic acid poisoning. I do not say that serious complication is impossible; but in various cases, in hospital and private practice, numbering more than fifty, I believe, although I have not kept strict account of the number, I never have had any serious accident or complication, and I think that great praise is due to Dr. Levis for introducing so valuable a remedy.

But here again I have to propose a method of operation which is the only one I have ever employed, and which seems to me to be simplicity itself. I do not use the cannula and long-nozzled syringe proposed by Dr. Levis.

The apparatus I employ is a glass syringe holding one hundred minims, having for its nozzle an ordinary hypodermic point, not the very smallest size. If the cyst is small this point is thrust into it and the clear contents of the cyst drawn out with the syringe. Then the latter is unscrewed from its point, rapidly and thoroughly washed, and promptly filled with the pure carbolic acid deliquesced with a little glycerine.

The syringe is now screwed again upon the point which has been left sticking in the cyst, and from thirty to sixty minims of the deliquesced acid thrown in. The point is now withdrawn and the whole operation terminated, with not much more trouble than it takes to give a hypodermic injection.

Generally, little or no pain is felt, no carbolic acid gets upon the scrotum or the operator's fingers, and the after-treatment is simply regulated according to the grade of inflammatory reaction produced. Sometimes there is no pain whatsoever during the entire course of cure, which (the cure) I have come to look upon as constant. I have operated in a hospital and my patient has walked away. I have at times operated in my office and sent the patient home; but I prefer not to do it. I have several times operated at home on very large hydroceles of the tunica vaginalis, and my patient has simply kept his room, not even gone to bed, and has gone about his business as usual in forty-eight hours. I have thus far always insisted upon this amount of confinement to the house.

When the hydrocele is large I modify the operative method as follows:

I first insert the hypodermic point and see that a drop of clear serum oozes from it. I now puncture the cyst at another point with a fine aspirating needle, empty the contents, and withdraw the aspirating needle. I then screw the glass syringe upon the hypodermic point first introduced and throw in the drachm of deliquesced acid, which appears to be all that is required to accomplish the cure.

Nothing is easier, no operation of minor surgery in my hands has been more satisfactory in its results.

1 PARK AVENUE, NEW YORK CITY.

[1] Reprint from the Transactions of the Medical Society of the State of Pennsylvania, 1881.

THE DISSEMINATION OF SMALL-POX.—In a bulletin from the State Board of Health of Maine, it is shown that there are eighty-six places in the province of Quebec known to have received the contagium of small-pox cases from the epidemic at Montreal.

REFLEX SYMPTOMS OF NASAL DISEASE.[1]

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THE tendency of late years to examine more critically into the causation of certain morbid phenomena, has resulted in a more thorough and efficient application of the various aids to diagnosis, as well as a better appreciation of the significance of existing pathological conditions in nasal disease.

I use the term "nasal disease" in its broadest sense, including in this category not only permanent structural changes, neoplasms, etc., but also those conditions, the existence of which can only be demonstrated under favorable circumstances and surroundings.

When we consider the extensive mucous surface directly continuous with the lining membrane of the nose, the many remote complications that may have their origin here find an explanation. The points of communication are many. I may mention here the sphenoidal, ethmoidal, maxillary, and frontal sinuses, the lachrymal duct, the Eustachian tubes, the pharynx, mouth, œsophagus, larynx, etc. That these various tracts may serve as avenues for the extension of nasal diseases, and that nasal disturbances in their turn may cause remote effects by interfering with the proper functional activity of the contiguous parts, there can be no reasonable doubt.

Observations lately recorded by Hack, Bresgen, and others, make it evident that even parts having no apparent connection with, or relation to, the nose may be in sympathy with its various affections. The observations of Horace Green go far to show that, during the time when the laryngoscope was an unknown factor in the diagnosis of diseases of the upper air-passages, the possible connection between throat and pulmonary diseases was assumed to be more frequent than could be demonstrated.

Budd and Elsberg proved the frequent intimate relation between uterine and throat diseases, and their recorded observations show that rarely did one complication yield permanently, unless the other received its due share of attention. Chroback (1869), *Wiener Medisinische Presse*, calls attention to the respiratory neuroses accompanying some cases of retroflexion. Prosser James, in the London *Medical Times and Gazette* (1859), points out the apparent sympathy between the tonsils and the ovaries. The recorded cases of careful observers include as directly traceable to nasal diseases, dizziness, cough, dyspnœa, photophobia, frequent attacks of sneezing, hay fever (so called), loss of smell, toothache, facial and supra-orbital neuralgia, asthmatic attacks, spasm of adductors of the vocal bands, hemicrania, pharyngitis, laryngitis, swelling and redness of the nose, rhinitis, eczema of the upper lip, frontal headache, otitis, tinnitus, conjunctivitis, annoying lachrymation, disturbance of vision, etc. Hack mentions a case under his observation, in which a very marked œdema and redness of the wrist developed as a prompt result of cauterization of the nose for a hypertrophy of the tissue covering one of the inferior turbinated bones; and Elsberg (1870) calls attention to the frequent connection between throat diseases and dyspepsia.

An endless array of cases showing cause and effect could be cited, and might serve to give color to many startling theories that have been advanced in regard to the subject before us; but calm judgment and a careful analysis often show that affections apparently directly reflex, may have been merely coincident with, and not due to, the nasal affection, and that even marked hypertrophic changes often fail to produce the characteristic symptoms supposed to follow in their wake. It is only by careful and unprejudiced observation, coupled with a tabulation of cases, that definite conclusions can be arrived at; and when individual observations agree in every particular with the observations of others, then only can deductions be drawn and facts established upon which a firm line of treatment can be based. The accuracy of examination and the ultimate proper diagnoses of cases is the all-important factor to which I desire to call special attention, for statistics become useless if one observer details the symptomatology of a case, and comparing it with other recorded cases finds, his own observations corroborated; while another perhaps, in precisely the same train of symptoms, examines his patient, and finds that appearances accepted as pathognomonic are conspicuously absent.

The too early acceptance of conclusions based on the first examination, however thorough this may be, is misleading, the causes operating to produce characteristic appearances being often absent. For example, the sudden enlargement of the surface over the turbinated bones, due to the inhalation of cold air or irritating vapors, will often readily subside on the inhalation of warmer or purer air; and cases of so-called anterior nasal hypertrophy, in which soft, yielding tumors of considerable size encroach on the lumen of the nasal passages, will, for some unknown cause (perhaps psychical), suddenly fail to present any of their characteristic appearances for a time; again becoming visible under predisposing causes.

The importance of carefully going over the whole field—that is, the successive examination of every accessible point, from the tip of the nose to the oro-pharynx, is strongly urged, and the rather superficial method of exploration, too often indulged in, where the first pathological factor that may present itself is accepted as the whole cause of an existing state, is to be strongly condemned.

We frequently meet with cases in which exist a number of pathological conditions, each one of which in itself would be sufficient to cause serious disturbance.

I recall the case of a gentleman who consulted me in September last, suffering from occasional nasal occlusion and, as he expressed it, a distressing "stuffy feeling" in the posterior portion of the nose. Patient stated that, a few months previous, he had consulted his physician in regard to the ailment, and a diagnosis of nasal polypus had been made, and verified by the removal of a mucous growth of considerable size. His symptoms, after removal, became rather worse than better, this being attributed to manipulation of the parts during operation. Applications of sedatives afforded only slight and passing relief. When patient consulted me I found no trace of polypus, and, in fact, nothing objective which would have warranted me in giving any opinion. Patient's statements, however, led me to believe that the erectile nasal tissue played an important part in determining his trouble, and subsequent examination verified this. Cauterization with the galvano-cautery effected a complete and speedy cure. Cases of deflected septum frequently exist with hypertrophy of the turbinated tissue on the opposite side. If we accept certain reflex phenomena as due to either one or the other of these conditions, and if only one be remedied, the other may still keep existing morbid phenomena active.

Nasal diseases causing reflex phenomena should be classed under four heads: First, neoplasms; second, deformities, either congenital or acquired; third, breach of surface; fourth, circulatory disturbances. I do not include syphilis.

The first three varieties have long been recognized as capable of affecting organs not immediately concerned in respiration, but the fourth has only recently received that attention which its great importance merits, and it is just this variety which requires the greatest diagnostic skill, and the clearest understanding of the main points in differential diagnosis. It should be determined, and that beyond a doubt, whether disturbed circulation exists

[1] Read before the Laryngological Section, New York Academy of Medicine, January 22, 1886.

merely on the surface—that is, whether we have before us a case of rhinitis pure and simple, or whether the underlying structures are involved, or perhaps both. Remedial agents differing materially in their effects are indicated in one or the other class of cases. In surface irritation the membrane is red, frequently tense, and comparatively non-compressible. The secretion of mucus is generally increased. The reflex phenomena that follow in the train of this class of cases are few in number, and their connection with the nasal complaint generally recognized. Deep circulatory changes, however, may exist with little or no modification of the secretory function of the mucous membrane, but with a train of accompanying symptoms as varied as they are interesting. Once recognized, there is perhaps no condition the treatment of which gives prompter or more brilliant results.

Rhinitis, pure and simple, requires only passing notice. The indications to be met here are, first, a thorough cleansing of the affected surface, and the application of that remedial agent which in the estimation of the operator may be deemed best.

Too much stress cannot be laid on the desirability of bringing the medicament selected in direct contact with the mucous membrane. It is not always an easy task to thoroughly remove the viscid or inspissated mucus covering the parts; and the negative results obtained in a proportion of cases are directly traceable to a superficial application made to the mucus covering the parts, and not to the *cleansed* surface. The recognition of the deeper circulatory disturbances—and I refer here mainly to the soft, yielding tumors marking the site of over-distended cavernous tissue—is frequently attended with much difficulty; but when the diagnosis is once fully established, the matter of therapy becomes clear.

I cannot give a better example of the effect of the over-distention of the cavernous sinuses than by detailing a case that came under my observation about one year since. Mr. J——, a pianist, aged twenty-two, consulted me in the winter of 1884. For about two years previous he had suffered from intermittent occlusion of both nasal passages, accompanied at the time of attacks by a profuse watery discharge, generally so copious as to materially interfere with his vocation. Sneezing at such times also became a prominent symptom, dyspnœa was more or less marked and violent, and hemicrania frequently compelled him to seek relief in small doses of morphia. Patient was of an exceedingly nervous temperament, and when I proposed to him to make a thorough examination of both nasal passages, he could only, after much persuasion, be induced to permit it. I discovered, on examination, hypertrophy of both inferior turbinated bones, the tissue on the right side touching the septum, an enlargement on the left side being almost as marked. Either enlargement could be readily made to disappear by gentle pressure with a flat instrument, but would promptly reappear as soon as pressure was relaxed. The mucous membrane itself did not participate in the disturbance, was normal in color, and not sensitive to the touch. Patient dated his trouble from a coryza which was slow to disappear, and which, at the time, was accompanied by a very high temperature and general disturbance. This patient exemplified in a marked degree the class of cases in which improper surgical interference is often productive of great harm, substituting for the original complication a condition almost as distressing as the one remedy.

I gather from the available literature that the tendency is, in dealing with enlargements like the one above mentioned, to use a broad flat burner, connected with a galvano-cautery battery, and to destroy the entire enlargement from the surface inward. This practice I cannot too strongly deprecate, as the enlargement is removed at the expense of impairment of the secreting function of the mucous membrane at the site of cauterization, the muciparous glands being destroyed. I have frequently seen large cicatricial patches in the nose, harsh in appearance, and covered with scales of dry mucus. Inquiry elicited the information that cauterization had been practised for the removal of hypertrophied tissue.

Large flat burners should, in my opinion, be condemned. I am personally responsible for one form of flat burner which I no longer use. Large hypertrophies can be more effectually removed, and the integrity of the nasal mucous membrane not interfered with, by another method, much simpler, less painful, and more rapid. I refer to the employment of a slender platinum wire point (connected with the galvano-cautery battery), which by changing its position can be made to destroy successively the various portions of any growth without materially enlarging the original point of entrance, which should generally be at the base, and anteriorly. Growths thus destroyed collapse in a few days, and leave no trace of their former existence, except perhaps a round cicatricial point about the size of the head of a pin. The mucous surface has been kept intact, and secretes as if no cauterization had been practised.

It is not my purpose to call attention to any new phenomena, or to evolve any theories regarding the interesting subject before us, but I prefer to content myself by strengthening existing material, and suggesting slight modifications in methods already known. That much mischief is done by the indiscriminate use in the nose of various destructive agents where reflex nasal phenomena manifest themselves, and that many an operative interference could have been dispensed with, we well know; but that also many conditions which we now refer to nasal disease, could in the past have been remedied had their cause been recognized, will not be disputed, and I think that any stimulus that will further closer observation in this field, not alone in the matter of cause and effect, but also in therapy, should be looked upon as a step in the right direction.

The recital on my part of numerous cases would not add much to our knowledge, but careful investigation, correct data, and above all therapeutic measures based upon correct diagnosis, will add much toward bringing the matter of rhino-therapeutics to the level of one of the exact sciences.

A NEW METHOD OF TREATING CLEFT PALATE.

By GEORGE ARTHUR, M.D.,

DEMONSTRATOR OF OPERATIVE SURGERY IN THE NEW YORK POLYCLINIC.

This method is adapted to those cases only in which the cleft involves the hard palate.

Although a reasonable degree of success has been obtained by the purely mechanical treatment of cleft palate, it has been, in almost every case, at the cost of long and persistent practice on the part of the patient, requiring an amount of intelligence and perseverance that are not always found in the subjects of the treatment.

Unless the artificial velum, when in position, permanently abuts against the posterior wall of the pharynx, which is not desirable, and even if it were, is likely to give rise to irritation and ulceration of the pharyngeal wall, a vacant space must be left between the posterior free border of the instrument and the back of the pharynx. Thus the superior constrictor muscles can learn to close, only after long practice, and in the most favorable cases, since they must be trained to supplement the defective palatine muscles in closing the upper part of the pharynx, by meeting and grasping the posterior margin of the artificial velum.

In many cases that are considered successful the characteristic unpleasant nasal timbre of the voice is not corrected, although tolerably clear articulation has been secured. This defect is due to the imperfect adaptation of the pharyngeal constrictors to the posterior border of the instrument, leaving a chink by which air can pass

through the nose, instead of being diverted completely into the mouth, as would occur with the normal palate.

Good results have also been obtained by the surgical treatment of cleft palate alone, especially when it has been done in early infancy and the defect is confined to the soft palate. In the greater proportion of cases, however, in which the cleft is extensive, necessitating the operation of uranoplasty, the results are by no means perfect; indeed, it is unusual, when the operation is done after infancy, that ever great improvement in speech is obtained.

The probable reason that the operations of staphylorraphy and uranoplasty do not furnish better results is, no doubt, because the velum is left too short and rigid to play its proper part in closing the pharynx, and effectually diverting the column of air through the mouth.

On the whole, the mechanical treatment seems so far to have been rather more successful than the surgical.

The great defect in the instruments heretofore relied on is that the mucles that normally raise the velum palati are not used at all. The tensors and levators of the palate, deprived of their normal insertions in the middle line of the velum and uvula, hang uselessly on either side of the artificial velum, and take no part in raising and otherwise manipulating it; hence the necessity for the increased and unusual action of the pharyngeal constrictors.

If the elevator muscles of the natural could be made to act upon the artificial palate, so as to make it imitate all the movements of the perfect normal velum, and lift its free edge upward and backward into contact with the back of the pharynx where the constrictors could easily and without unusual or special action grasp it, much better articulation would result, and this desideratum can be secured by the following method, in which the surgical and mechanical methods are combined, and the defects of both avoided:

The first step in the treatment is to unite the two halves of the uvula and soft palate as completely as possible.

This may be done by freshening their edges and securing them together with sutures—preferably the perforated-shot suture. If the cleft is too wide for this to be done without undue tension of the parts, small portions of the posterior and internal borders of the free edges of the palatine processes, large enough only to furnish secure support for a silver wire to be passed through perforations drilled through their centres for the purpose, may be cut off with a fine, sharp chisel under the mucous membrane, which should be completely separated from their inferior surfaces with the periosteum, or fractured off after suitable guiding perforations have been made, as shown in Fig. 1. These fragments should be brought close enough together with a strong wire, to relieve the wound of tension.

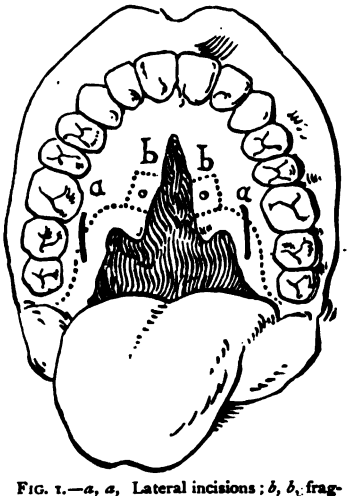

FIG. 1.—*a*, *a*, Lateral incisions; *b*, *b*, fragments of palatine processes separated from the hard palate.

If the above proceeding fails to relieve all tension on the wound, incisions, partly or entirely, severing the tensors and levators, as recommended by Langenbeck, may be made (Fig. 1, *a*, *a*), but it is advisable to avoid all cutting of these muscles, if possible, in order to preserve them intact for their future function.

It may also be necessary to divide the palato-glossi and palato-pharyngei muscles with scissors; but with the above precautions it is not probable that the healing together of the velum will be endangered, or even retarded.

When the wound has healed the condition of the parts will be as shown in Fig. 2, furnishing a soft palate, short and incomplete, but with points d'appui for the palate muscles that permit them to perform their function of manipulating what palate there is, as in the normal condition, instead of merely dragging the separated halves further asunder when they contract, as was the case before they were united.

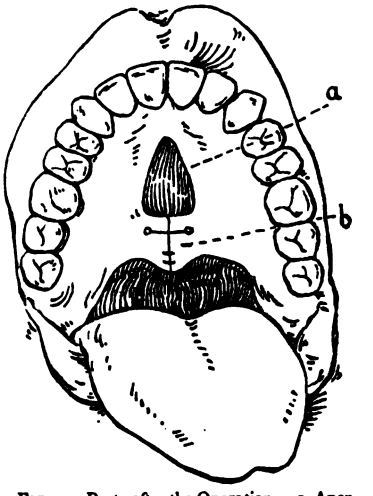

FIG. 2.—Parts after the Operation. *a*, Aperture in hard palate; *b*, velum.

No attempt is made to close the hard palate, the object of the surgical part of the treatment being merely to remedy the defect of the velum and uvula. Indeed, it is rather an advantage to have a large opening in the hard palate, and this should be borne in mind when cutting or breaking off the fragments of bone as before described.

The parts are now ready for the mechanical appliance, which is to lengthen and otherwise supplement the deficiencies of the newly made natural velum.

A plate of suitable material—gold, silver, or hard rubber—is now fitted to the hard palate, extending nearly to its posterior margin, but not quite to the posterior end of the cleft. This plate must fit very accurately to the margins of the cleft, and slightly overlap them.

To the upper surface of this rigid plate is attached a flexible soft-rubber velum, which rests upon the natural

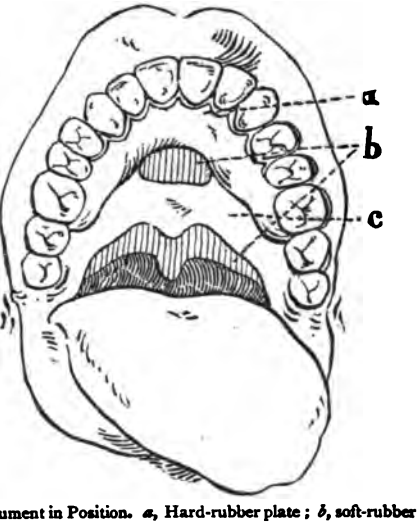

FIG. 3.—Instrument in Position. *a*, Hard-rubber plate; *b*, soft-rubber velum; *c*, natural velum.

velum, and is shaped in moulds made from impressions and casts of the natural parts so as to fit them exactly, and imitating as closely as possible in contour the normal soft palate. This is attached to the artificial hard palate only in the median line from the anterior angle of the cleft to the posterior edge (of the artificial hard palate), filling up, when in position, that part of the cleft, or now, more properly, aperture in the natural palate which is left uncovered by the rigid plate, and continued beyond the free border of the natural velum as far as may be necessary to compensate for its defective length.

The portions of the flexible-rubber palate that are attached to the plate in the anterior part of the mouth, and that fill up the posterior part of the aperture in the palate, which it must do completely and perfectly, may be thick

and substantial, while the continued portion of it that rests upon the natural velum, should be light and thin, only sufficient thickness being necessary to enable it to recover its form when released from pressure, and to maintain it when the muscles that move it are passive.

The instrument is placed in position by doubling the flexible-rubber portion upward with a pair of long, light dentists' gold-pliers, and thrusting it upward and backward through the aperture left in the palate. The pliers are now withdrawn, and the hard-rubber plate is placed in position, so that the tooth-clasps, or atmospheric chamber, by which it is held, will take hold. When this is done, the flexible-rubber velum will have unfolded and adapted itself to the upper surface of the natural velum, as in Figs. 3, 4, and 5.

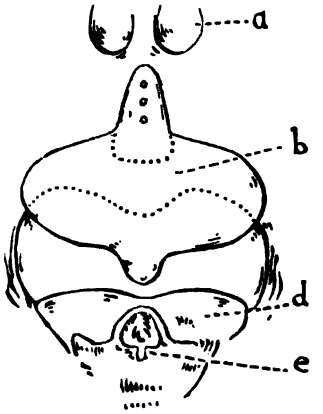

FIG. 4.—Posterior View of Fig. 3. *a*, Post nares; *b*, artificial velum; *d*, dorsum of tongue; *e*, epiglottis.

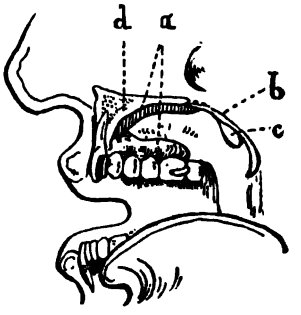

FIG. 5.—Lateral View of Fig. 3. *a*, Hard-rubber plate; *b*, soft-rubber velum; *c*, natural velum; *d*, natural hard palate, which in the figure extends too far posteriorly.

The plate and artificial velum are to be vulcanized in moulds made from casts of the natural parts as described by Dr. Norman W. Kingsley [1] and Mr. Coles.[2]

The impression of the upper surface of the natural velum and the adjacent soft parts, from which the casts and moulds are made, should be taken while the soft palate is passive and pendulous, or even depressed somewhat below the normal, so that the superjacent artificial soft-rubber velum shall tend to press gently upon it in every position, and closely follow its movements.

By this method an artificial palate is obtained which is under perfect control of the palatine muscles, and which is light and flexible enough to adapt itself to the changes in form of the tongue, pharynx, and palate, in all the movements of articulation, deglutition, and respiration.

36 WEST THIRTY-THIRD STREET.

EPILEPSY OCCURRING WITH OPTIC NEURITIS.—M. Galezowski relates the case of a young man who had had one eye destroyed by an accident while shooting. The anterior hemisphere had been removed, leaving the stump of the eye in its socket. Six years later the vision in the sound eye became poor, examination showed the presence of neuro-retinitis, and at the same time the patient began to suffer from epileptic seizures. The stump of the wounded eye was removed, and immediately the attacks of epilepsy ceased and the sight in the opposite eye began to improve. Taking into consideration the results of the operation and the connective-tissue degeneration and nerve atrophy found on microscopical examination of the stump, M. Galezowski assumed that the neuro-retinitis, and the cerebral trouble accompanying it, were due to a sympathetic reflex action. There was, he thought, in the meninges, or in some part of the brain, a lesion similar to that revealed by the ophthalmoscope in the engorged papilla of the optic nerve. —*Revue Médicale*, January 2, 1886.

[1] Oral Deformities. By Norman W. Kingsley, M.D. D. Appleton & Co.
[2] On Deformities of the Mouth. By James Oakley Coles. Lindsay & Blakiston.

A CASE OF "DAYMARE."

BY T. M. HOLMES, M.D.,

ROME, GA.]

MRS. ——, the wife of a clergyman, became a resident of this city in the summer of 1883, and soon thereafter she consulted me with regard to her health. I found her to be a very intelligent lady of about thirty years of age, a blonde, rather below the medium size, and of pleasant face, but bearing marks of anxiety, as one who was a subject of much mental or physical suffering. I soon discovered that she was of an exceedingly nervous temperament, and she informed me that for many years she had had frequent and very severe attacks of catalepsy. When a girl she had been troubled with similar attacks of a milder nature, but after her marriage they became more frequent and more intense, and seemed to be aggravated in an increasing ratio by each succeeding period of gestation. At this time she was the mother of five children, the oldest being about fourteen and the youngest three years of age.

She had been under the treatment of several prominent physicians in South Carolina, whence she had recently come, and had tested to the fullest extent every therapeutic agent usually employed in neurotic troubles. Nothing, she thought, had ever done her the least particle of good in the way of keeping off the attacks; and during the seizures themselves the hypodermic use of morphia was the only agent of relief, with any degree of permanency, that she had ever used. This mode of administration was very necessary, because of extreme nausea immediately following its internal administration, and the consequent failure to take effect.

I was soon called to see her in one of these distressing seizures. It was most severe and obstinate. She felt it coming on and had taken to her bed. On my arrival, I found her in the recumbent position, her hands clenched in each other as tightly as if held in a vise, and could not be separated. Her feet and legs were drawn backward, the former resting on their palmar surface. The face was like that of a woman straining in labor, with the exception of color, for she was quite pale, as in a nervous rigor. She presented a spectacle most pitiable to look upon. Her mind, as usual during these attacks, was perfectly clear, being cognizant of all that was going on around her. The pupils and respiration were perfectly normal, as was also the pulse, though the latter was hard to detect, because of the rigidity of the radial tendons. Her teeth were firmly clenched, so that it was out of the question to give medicine by the mouth, to say nothing of the rebellious stomach. I therefore proceeded to relieve her condition by the administration of chloroform, until the muscular contractility was completely overcome. This left her fingers quite white where they had pressed against each other, and purple at their extremities. This relief did not last long, for in a few moments the same symptoms recurred, and did not entirely disappear until the patient was thoroughly under the influence of morphia. Soon after complete relaxation was obtained she vomited. This was usual with her after these spells.

These attacks recurred from time to time, but she was not always in a position to secure recumbency. They were liable to come on while she was walking the streets, or the floor attending her household duties; or while sitting with her little ones around her, and whatever position she might be occupying, in that she would usually be immovably "fixed." However, if her limbs happened to be in a position in which some object was holding them, and that object were removed, they would immediately assume a position of extreme flexion.

On one occasion I was hurriedly summoned to see her, and on arriving found her walking the floor at a very rapid pace. Her hands were raised before her, and she was slinging them as if they were covered with a thousand stinging insects. She was evidently in great agony. With difficulty I administered hypodermatically one-half

grain of morphia, and entire ease and repose soon followed. On another occasion she felt an attack coming on while in church, and immediately left the building. On reaching the street it seized her, and she was forced to cling to the fence to prevent falling. There she stood, unable to move, being all the while in mental torture for fear the congregation would be dismissed and behold her in this very embarrassing position. From this humiliation, however, she was rescued by the appearance of a friend, who suspected the cause of her departure.

The timely administration of morphia would always keep off an impending attack. During these attacks there was never insensibility to pain or the touch. She was simply unable to speak or move. The pain was usually not great, and seemed to be solely the result of muscular contraction.

Diagnosis.—In speaking to her of her trouble, I retained the name to which she was accustomed—that of catalepsy; but while it was extremely cataleptiform, it was by no means the "catalepsia vera" of Ziemssen, Da Costa, Flint, and others. It was like a case reported by Sir Thomas Watson, which this eminent physician denominated "daymare." In the case described by him, there was total inability to move or speak; yet the patient was perfectly cognizant of everything about her. Now, according to Ziemssen, "catalepsia vera" has two pathognomonic symptoms—the "stiffening of the muscles," and the so-called "flexibilitas ceria"—the susceptibility to passive motion. That is to say, that the muscular tension may be sufficiently overcome by an attendant to admit of a change in the position of the limbs, in which position they will be "fixed" as before. This is impossible in "daymare," since there is not a moment's relaxation of muscles. There is also in catalepsy anæsthesia, analgesia, and sometimes suspension of consciousness, but none of these symptoms exist in "daymare."

Pathology.—Sir Thomas thought that in his case the seat of disease was the cerebral blood-vessels. If this were true, "daymare," as De Costa has suggested, would be a very grave affection; but in this opinion of the pathology of the disease I do not concur. At least I am quite sure that such was not the case with the subject of this article. From the history and symptomatology of this case I was led to believe that the origin of the trouble was in the uterus. To ascertain the truth of this, a specular examination was necessary, in which procedure I invited the celebrated Dr. Robert Battey to assist me. We found, as I had anticipated, a fearfully ulcerated and congested os. This was the "open sesame" to the whole trouble.

Prognosis and treatment.—We told our patient that by care on her part in abstaining from overwork and worry, which generally promoted the attacks, and by a persistence in our course of treatment, she might entirely recover. This treatment would consist of an application of iodized phenol once a week to the os and endometrium. In this way we hoped to relieve the congestion, allay the inflammation, obtund the sensibility, and so alter and tone up the diseased mucous membrane and relaxed muscular tissue as to restore the parts to their normal condition.

This treatment was persisted in for several months with but very little improvement, the seizures coming on at irregular intervals. The uterus was several times found to be so retroflexed that it was almost impossible to make the applications. Believing, therefore, that support would benefit the uterus while in this diseased and atonic condition, I supplemented our treatment with Tallofera's cotton tampon, saturated with his usual preparation of iodoform, balsam of tolu, and glycerine. This gave the uterus such support that the patient experienced immediate relief, as if a load had been removed from the inferior pelvis. From this date she began to improve rapidly, both as to the frequency and severity of the attacks, and her general health was in a short while much improved. Her menstrual periods failed to appear some weeks before the institution of the tamponing, but I did not think it possible that conception could have taken place under such circumstances. Especially did I think it improbable when she informed me that they had failed to appear once before without developing anything more than an aggravation of her trouble. However, in this instance, we were destined to be undeceived. Her husband was called to another field of labor and in due season she gave birth to her sixth child. Since their removal I have been unable to follow up this most interesting case.

Clinical Department.

OPERATIVE TREATMENT OF CHRONIC VESICAL CATARRH.

In an elaborate paper read before the Dane County Medical Society, on September 1, 1885, Dr. A. F. Jonas, of Madison, Wis., argues with much force in support of the operative treatment of this obstinate and troublesome affection. A great many drugs have been recommended from time to time in the treatment of chronic catarrh of the bladder, some even being extolled by enthusiastic advocates as veritable specifics, but none has maintained its ground as a remedy of real value. The balsams, which deserve to rank among the first in point of efficacy, must often be discontinued before the desired result has been obtained, by reason of the disturbance to the digestive functions which they excite. Local treatment was first instituted, the writer says, by French surgeons, and the excellent results thus obtained demonstrated the importance of topical applications to the bladder. But, although this method was often successful, there were, nevertheless, numerous failures, due in many cases to the fact that solutions of sufficient strength to destroy the micro-organisms would be dangerous, either from their local action upon the vesical mucous membrane or from absorption. This method also demands the frequent passage of a catheter, with all its attendant dangers; and, furthermore, it is impossible to reach the whole inner surface of the bladder, since the mucous membrane lies in folds around the eye of the catheter, and the fluid passes out again after having moistened only the small portion of the lining membrane of the bladder which happens to lie in contact with the end of the catheter. Attempts to introduce a sufficient quantity of fluid to distend the bladder and thus secure contact of the solution with every portion of the mucous membrane, usually cause such severe pain as to necessitate their discontinuance. The conditions here existing the writer compares to a wound with many pockets and recesses, in which the secretions accumulate and decompose. The treatment of such a wound is perfect drainage, and the same principle should be applied to the management of chronic vesical catarrh. An incision should be made into the bladder and a drainage-tube inserted. Dr. Jonas states that Bouchardat, in 1803, was the first to treat this affection by incision, but that Willard Parker was the first to publish and advocate the method of treatment. The author reports a case in which he employed drainage with success. The patient, a man sixty years of age, had suffered from inflammation of the bladder for three years, and when coming under observation was greatly prostrated, and had a countenance indicative of great suffering. An attempt was made to irrigate the bladder, but it caused severe pain and had no effect upon the disease. Upon consultation with Drs. Coolige and Gapen, it was decided to operate. A median incision one inch in length was made in the perineum, and the membranous portion of the urethra then opened with a lithotomy staff for a guide. After some difficulty, the prostatic portion was dilated with

the finger, and a rubber tube with well-rounded edges was passed into the bladder after the viscus had been carefully cleansed. The perineal wound was packed with iodoform gauze, and the tube was passed over the side of the bed, its free extremity lying in a vessel containing a solution of carbolic acid. With the exception of a temporary rise of temperature, accompanied with delirium, on the sixth day, the progress of the case was favorable, and the patient made an excellent recovery. As regards the method to be employed, the writer prefers a median incision. The incision is not carried into the bladder, but the tube is passed through the prostatic portion of the urethra, thereby answering a good purpose in overcoming the spasm of the sphincter which is often so prominent a symptom. The tube may be removed when the urine has become acid in reaction, and the other symptoms have subsided. The operation, of course, should be reserved for those cases in which other measures have been proven by trial to be ineffectual.

THE NECESSITY OF REVACCINATION.

THE following cases illustrate well the wisdom of frequent revaccination, at least as often as the liability of exposure to small-pox occurs. Dr. E. A. Cobleigh, of Athens, Tenn., referring to some recent instances reported in THE MEDICAL RECORD, states that he has observed three cases in his own family in which the protection afforded by vaccination was lost after comparatively brief periods. He writes: "My father was vaccinated successfully in his fifteenth year, and had a large and typical cicatrix. At varying intervals thereafter he was tested by revaccination, and when I entered upon the practice of medicine (as it is my invariable custom to revaccinate all the members of my family whenever variola exists in the vicinity) I also tested him frequently, and without results until his fifty-sixth year, when an atypical and abortive vesicle followed my puncture. I repeated the test, a few weeks later, twice, and failed. When he was fifty-eight years old I had occasion to try him again, and it took as regularly and thoroughly as I ever saw it on an infant. I repeated the experiment on father several times during the next two years (till his death) with negative results.

"The next case I have to report is myself. When an infant I was successfully vaccinated. At seven years of age I had varioloid. After entering the profession I put scores of samples of vaccine lymph under my cuticle, and treated variola with impunity. This continued for eight or nine years when, much to my surprise, one of the vaccinations 'took' on me to perfection, and I had a large, typical vesicle, and a raging fever, the arm necessitating a sling for several days. My rule has long been to *repeat* my vaccinations as soon as the first has run its course, until saturation of the system is shown by the efforts failing. I did so in my own case, and have repeated the operation several times at intervals since, with no effect.

"The third case is a son. When he was a baby in arms small-pox came pretty close to us, and I vaccinated him with humanized virus, getting three very nice vesicles. These ran their course, and I repeated the effort, but without effect. A year later I had occasion to once more test this same son's liability to take the disease, and again had three vesicles. Repetition at short intervals now also failed; but a year later, or thereabout, the same thing was gone through with, and this occurred for four years four several times. Now the susceptibillty ceased for four years, and then it again 'took.' Again, four or five years later he was successfully inoculated, since which time he has seemed thoroughly protected and proof against any further efforts. Of my other two children only one vaccination in infancy has been necessary for protection."

Dr. F. E. Porter, of Auburndale, Mass., reports the case of a man, sixty-five years of age, who had confluent small-pox in 1850, and still bears the marks of it on his face. He was vaccinated on December 30th with fresh bovine virus, and on January 8th Dr. Porter writes: "He carries to-day the typical vesicular circle and red areola, as in primary vaccination. Constitutional symptoms are now well marked, and the man is evidently going to have all the conditions, subjective and objective, that belong to vaccinia. The cases that I have thus far seen reported were, like the above, in persons who had had the disease many years before, and vaccination, as previously performed, had been with humanized virus. As far as it goes, this would seem to confirm what Dr. S. C. Martin said at a recent meeting of the Suffolk District Medical Society, to the effect that bovine virus induces a distinct disease which protects the system from an invasion of small-pox, while humanized virus does not do so."

Progress of Medical Science.

IODOFORM INJECTIONS IN KNEE-JOINT DISEASE.—Dr. Piltz reports the case of a woman, fifty-eight years old, who had suffered from pain and swelling of the knee for about a year. In spite of active treatment the disease progressed steadily until the patient's health began to suffer. An exploratory puncture showed the presence of thin, flocculent pus. The author determined, before resorting to incision and drainage, to try the method of iodoform injection recommended by Mikulicz in the treatment of cold abscesses. The joint was punctured with a trocar and about a pint of pus removed, and it was then thoroughly washed out with a three per cent. solution of carbolic acid. After this, about two ounces of a ten per cent. iodoform glycerine emulsion were injected and an antiseptic dressing applied. No elevation of temperature followed the operation. The general and local effects of the injection were described as wonderful. The pain yielded at once, and merely a slight burning was felt in the joint. The patient slept well that night for the first time in many weeks. At the end of six days a little pus had reaccumulated in the joint. The operation was repeated, a smaller quantity of the emulsion being injected. After this no more pus was found and the patient continued to improve, regaining the use of the knee and increasing in weight. The author believes that this method might be advantageously employed in all joint diseases of this sort in which there is no lesion of the osseous structures.—*Allgemeine Medicinische Central Zeitung*, No. 94, 1885.

THE HERPETIC DISEASES.—Dr. Luton writes in the *Bulletin Général de Thérapeutique*, of December 15, 1885, upon the treatment of herpes, pneumonia, and croup, which he regards as diseases belonging to the same category and amenable to the same therapeutic measures. The treatment consists in the administration of arsenic, preferably the double arseniate of sodium and potassium. This is given either by the mouth or hypodermatically. A solution is made of two-fifths grain in four ounces of water, of which a tablespoonful is given every two hours. When used hypodermatically, fifteen minims of a one per cent. solution are injected three times a day.

IMPERFORATE HYMEN.—At a meeting of the Surgical Society of Paris (*Gazette des Hôpitaux*, December 12, 1885), M. Segond related the case of a young woman, twenty years of age, who had apparently never menstruated, but who suffered periodically from severe abdominal pains. Various emmenagogues had been given, with the effect of merely increasing the difficulty. On examination, M. Segond found a large fluctuating tumor extending three fingers' breadth above the umbilicus. The hymen was found completely occluding the vagina, and greatly distended. The uterus could be felt of nor-

mal size. The patient was anæsthetized and a crucial incision was made in the hymen, permitting the retained menstrual fluid to drain away slowly. After the complete evacuation of the tumor, which required about forty-five minutes, a drainage-tube was inserted and the vagina washed out with a 1 to 2,000 sublimate solution. An antiseptic dressing was then applied. After a few days there was a slight stomatitis, requiring the substitution of carbolized injections for the sublimate solution. The patient experienced no untoward symptoms, and has subsequently menstruated regularly and normally.

COLD BANDAGING OF THE LEG IN INSOMNIA.—Dr. von Gellhorn has found the following plan very useful in inducing sleep in persons who suffer from insomnia. A piece of calico, about eighteen inches wide and two and three-quarters yards long, is rolled up like a bandage, and a third of it wrung out in cold water. The leg is then bandaged with this, the wet portions being carefully covered by several layers of the dry part, as well as by a layer of gutta-percha tissue, and a stocking drawn on over the whole. This causes dilatation of the vessels of the leg, thus diminishing the blood in the head and producing sleep. It has been found by Winternitz that the temperature in the external auditory meatus begins to fall a quarter of an hour after the application of the bandage, and the normal is again reached for from one and a half to two hours afterward. Gellhorn has employed this means of procuring sleep for several years, and finds it especially useful in cases where there is congestion of the cerebral vessels. Sometimes he has found it necessary to reapply the bandage every three or four hours, as it dried.

THE TREATMENT OF WINTER-COUGH BY PURE TEREBENE.—During the last five years Dr. William Murrell has employed a method of treating winter-cough for which he claims excellent results. His experience extends to one hundred and fourteen cases. He says (*The British Medical Journal*, December 12, 1885) they were all treated with pure terebene, a substance prepared by the action of sulphuric acid on oil of turpentine. It is an agreeable remedy, being a clear, colorless liquid, with an odor like that of fresh-sawn pine-wood. It will not mix with water, but, as the dose is small, it can readily be given on sugar. It is not the same as the patent medicine sold under the name of "terebene." One of the great advantages of pure terebene is that it is not a bulky medicine. An ounce bottle, carried in the pocket, will last for days, and is always ready for use. It is best to begin with five or six drops on sugar every four hours, and gradually to increase the dose to twenty minims. This is, for most people, the maximum quantity, but the drug has little or no toxic action, and one patient was so enraptured with his remedy that he insisted on taking a teaspoonful every four hours for a week. The only disadvantage Dr. Murrell has ever noticed from its employment is that it gives a peculiar and characteristic odor to the urine, a circumstance which patients never fail to mention. When used as a spray, from one to two ounces should be diffused and inhaled every week. In some instances he has tried giving it mixed with an equal quantity of olive-oil flavored with oil of peppermint. In twenty-five cases he gave the terebene in the form of an emulsion, made by mixing it with a little tragacanth powder, adding water and shaking well. Each ounce of the emulsion contained a drachm of the terebene, and it was usually given in half-ounce doses four times a day. The results were excellent, but not better than with the simple terebene itself, and he saw no reason for continuing the use of a more expensive preparation. In every case of winter-cough in which the terebene-spray was used systematically there was a marked improvement. In many instances it was noticed almost immediately; but in other cases, especially the very chronic ones, the patient had to continue using his remedy for some weeks. Even when there was marked emphysema, with little movement of the chest-walls, some benefit was experienced. He treated eighteen cases of phthisis by the same method, and the results were certainly most encouraging. It did most good when there was old consolidation, when no active mischief was in progress, and especially when there was no elevation of temperature. He has also used it as a dry antiseptic inhalation on the cotton-wool of a respirator in phthisis, and has been much pleased with the results. In one case, that of a young lady, the respirator was worn almost continuously night and day for nine months; and the right lung, which was breaking down, cleared up, the temperature becoming normal and the cough and other symptoms subsiding. He has no doubt that pure terebene would be useful in checking hemorrhage from the lungs, but on that point he has no experience. Many sufferers from winter-cough also complain of acidity and flatulence. The author soon found that the internal administration of pure terebene was an excellent remedy for this combination of symptoms. It checks the formation of flatus so quickly, and is so efficacious in expelling any that may remain in the stomach or intestines, that he constantly employs it in cases of dyspepsia when flatulence is a prominent symptom. Patients like it, and often continue taking it for months or years. It acts as an antiseptic, probably, in much the same way as glycerine, oil of cajeput, and oil of eucalyptus. Pure terebene is of such value in winter-cough that Dr. Murrell rarely experiences the necessity of resorting to other remedies.

GELSEMINUM HABIT.—Dr. H. C. Caldwell (*Medical and Surgical Herald*) reports the following case: The subject was twenty-four years of age at the time the writer first met him. He was robust, had lived a life well divided between work on the farm, study, and rational recreations. Mentally he was of that type we style well balanced. He was, therefore, not such a person as we would expect to see become the victim of a habit. He contracted chills, rheumatism supervened, and he refused the frequent offers made him of chloral hydrate and morphia. His father had been addicted to the opium habit, and the son grew up with a horror of the very name of opium. In an attack of more than usual severity he took a large dose of fluid extract of gelseminum. Relief followed. The next day a repetition of the paroxysm called for a repetition of the dose. As with all quieting agents, the dose must be augmented, and during the year this increase was not very great. One hot night, in great agony, the sufferer took a very large dose and lay stupid until noon the next day. The experiences he had were, as he said, "wonderfully pleasant." Now the habit became fixed. The victim grew to using as much as a fluid ounce of the extract at one dose! What would once have produced death was now only a gentle palliative. Still the dose must be increased. He became pale, emaciated, listless, and, at times, strangely uneasy. He became the prey of strange terrors, and was subjected to some hallucinations of the senses. Looking fixedly at any distant object, he could discern all the colors of the spectrum; then darkness followed, and then a number of faint rays of light would precede the complete return of vision. His hearing became singularly acute. He was apparently regardless of what was passing; still, he could detect whispers uttered many yards away. Nothing could induce him to give up his darling drug. Seeing how the matter distressed his friends, he went away. During his stay of a year in Canada he increased the dose daily. He returned far more feeble, and at times seemed positively idiotic. He fancied ghosts were around him; he could hear the whispers of leering demons, and in his better moments saw the wings of angels hovering around his bed. After a year more of this strange habit, he sunk into a condition of hopeless idiocy, and died in the stupor induced by his idolized drug. The relatives of the unfortunate man never took care to prevent his obtaining the drug.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 20, 1886.

CHARITY REFORM IN LONDON.

IT would seem from recent statements in some of the London journals that discussion had begun in earnest concerning the reformation of medical charity, and that our transatlantic brethren were somewhat behind ourselves in actual progress made in this laudable direction. We are rather surprised to learn from a London letter to one of our cotemporaries that "an association of gentlemen has been formed to establish provident dispensaries in various parts of London, to which the poor are to subscribe so much a month or week, for themselves or families, so that they may receive medical relief, if necessary, at their own homes, in time of sickness." The fear is hazarded that "POSSIBLY some men who are in a position to pay a family doctor will subscribe to these dispensaries in order to avoid a doctor's bill."

Presumably human nature is alike in all countries, and we can assure these gentlemen that "certainly," and not "possibly," is the word to be used in this connection. Here, in New York, this plan has been tried. Its glaring inconsistencies, as evidenced at one particular institution, we have already pointed out. Weighed in the balances of justice to the profession, it has been found most lamentably wanting. We would advise our London friends to leave off before they begin. The experience of the last few years here in our midst warrants us in giving this advice.

It is somewhat interesting to notice a plan proposed in London to restrict the abuse of charity by the large hospitals. It is suggested that no patient should be treated in them whose credentials have not previously been passed upon by some dispensary. "It is proposed to affiliate several dispensaries to each large hospital, and practically to transfer the out-patient departments of the hospitals to the dispensaries."

We have been waiting for some time for a report from the committee appointed at the meeting held a few months ago at the Academy of Medicine, under the auspices of the Charity Organization Society. We hailed this step as a long-needed measure, and characterized it as the first-fruits of charity reform. We trust this committee is pushing this work vigorously. The time is ripe. Never before was so much interest manifested, both among and outside of the profession, concerning this question, and this interest must be kept up to the working point. A report merely of progress would be welcomed.

No close observer of human nature will ever expect that the world will become an Utopia, either in the dispensation or the acceptance of charity. The approximate toward this ideal is, however, our bounden duty. And this duty comes home to the dispensary physician as well as to the manager. To make one's dispensary service a field from which such cases as are suitable can be "run in" to one's office practice (and all who can pay anything are generally regarded as suitable cases), is not right. It is clearly a violation of those principles on which dispensaries are, ostensibly at least, managed. If the patients can pay anything, it should go to the dispensary treasury and not to the physician's purse. He "gives his services"—at least he says he does. Let the gift be in deed as well as in name. Unless it is so, a dispensary position becomes a place of money-making rather than a place for clinical study, pure and simple.

It is true that many among the working classes are able to pay sometimes and not at others; and as to their ability in this direction at any given time we have to take their word. Discretion must be exercised in managing such people, else we may pauperize them by a too hasty yielding to their importunities without looking with sufficient care into their circumstances.

THE YELLOW FEVER INOCULATION HUMBUG.

WE find that the evidence in favor of Dr. Domingos Freire's prophylactic inoculations against yellow fever is very slight, and that the probability is that we have again another inoculation humbug.

The New Orleans *Medical and Surgical Journal* has undertaken a vigorous crusade against Freire, and it states that "when we had fairly and honestly gone through the 650-page book of Freire and had found therein no evidence of the truth of his declarations, we regarded it as idle to think of investigating him in Brazil, and we felt that our friends, Dr. Holt and others, had gone into this commission-project without having made a critical examination of the scientific value of Freire's statements."

Our contemporary recalls the fate of two previous claims made for a prophylactic virus against yellow fever. One, made by Drs. Masuata and Fraschieri. They claimed that they could protect against yellow fever by the inoculation of "rocio," or dew, and they requested an investigation of their methods. Two members of the Havana Academy of Sciences reviewed and tested the experiments. The substance used was not a natural dew, but artificial, obtained by the condensation of the vapor of water contained in the atmosphere of the closed room of a yellow fever patient, collected on the surface of bottles. In one experiment made by them distilled water yielded "more remarkable results" than inoculation with "rocio." And yet this "rocio" had been much vaunted as a prophylactic against yellow fever—with just as much foundation, we believe, as the method of Freire.

Again, in 1854, a Dr. William Lambert de Humboldt, who claimed to be a nephew of the great Alexander Humboldt, notified the Captain-General of Cuba of his discovery of a sure means of preventing yellow fever, by the inoculation of the venom of an unspecified Mexican

snake. So much excitement was caused by his announcement that the Spanish Government appointed a commission to study the subject, and to test the experiments of Humboldt himself, and a French commission went to Havana from Martinique. "Two thousand four hundred and seventy-seven persons were inoculated from December 18, 1854, to June 28, 1855." No good results were obtained.

It is quite time that the medical profession should take a decided stand in protest against the methods adopted by these quackish claimants for notoriety. Medicine is discredited by the continual eruption of these El Mahdis of inoculative prophylaxis. It has been doubted whether it was wise to urge upon our National Government the appointment of a commission to investigate the claims of Dr. Freire and others. We have not opposed the project since such commissions sometimes learn facts of interest even if they discover no specific. We learn that the House Committee has reported, or will report, in favor of appointing a commission to visit Mexico, Central America, and Brazil, for the purpose of investigating the methods of prophylactic inoculation practised in those countries.

THE FEE QUESTION.

THEORETICALLY the physician, like the clergyman, is a philanthropist, and is actuated in the practice of his profession solely by the desire of doing good to his fellow-man, and possibly also by his love of science for science' sake. But candor compels us to assert that in neither case is theory strictly in accord with fact. Here and there may be found a physician or a clergyman who really seems to have a vocation for his calling, and to engage in it simply by reason of his devotion to his profession or of his love for his fellows, seeking for no pecuniary reward beyond what is necessary for his actual needs. But this class is not a large one, and, as a rule, the minister takes the church that offers him the largest salary, and the physician charges as high a fee as the circumstances of his patient, or the nature of the services rendered, will warrant. These reflections have been called forth by a letter from a correspondent in San Antonio, Tex., who complains of the low fees charged by many physicians of that city. He writes: "The average San Antonio physician has the reputation of being a fifty-cent doctor, and really there are men here who will make a visit for that amount, and, if they fail to realize that vast sum, will not hesitate to make a reduction. I have been informed that there are medical gentlemen here who will take an obstetrical case for five dollars cash, but if they have to wait for the money a fee of ten dollars is charged. This sounds ridiculous, but it is only too true. However, there is another class who have endeavored to raise medical fees somewhat; they charge fifty cents for office prescriptions, one dollar a visit, and fifteen dollars for obstetrical cases. . . . Still, to be just, we have a few men here who have put forth every effort to keep up the dignity of the profession—men who have labored for years to bind up the gaping wounds which avarice and quackery have made in our professional ranks—only to see every effort at reform fail."

We are sorry for our correspondent and for all the honorable physicians of San Antonio who have to contend against underbidders. But perhaps it would surprise them to learn that there are numbers of practitioners, excellent physicians and honorable gentlemen, right here in New York, who see patients at the office for fifty cents, and seldom receive more than one dollar for an ordinary visit at the patient's house, while they willingly attend obstetrical cases for ten dollars, and are sometimes glad to compromise for five dollars cash. Yet such is the case, and no one gets angry over it. Medicine is indeed a noble profession, yet it is also a means of livelihood—a business, in other words—and the great laws of supply and demand are just as inexorable in their workings here as they are in the other divisions of mental or physical activity by means of which we poor mortals earn our daily bread.

Our correspondent says that the West Texas Medical Association has as complete a fee bill as any society, but that it is totally ignored by the "fifty-cent doctors." Of course it is. The West Texas Medical Association might just as well attempt to regulate the price which its members should pay for their hats or shoes. There are all sorts of men in medicine, as there are in every calling—good, bad, and indifferent. And patients who have the means wherewith to pay for the services of a physician in whom they have confidence will not employ a poor doctor because he values his services fifty or seventy-five per cent. less. And, on the other hand, many an excellent physician is obliged to content himself with one dollar, or even fifty cents, for a visit, for the reason that those among whom he practises cannot afford to pay more.

Ours is a noble profession, brother, but, as regards the payment for services rendered, it is ruled by universal economic laws, and those laws we cannot evade.

HYPNONE AS AN ADJUVANT TO CHLOROFORM.

ALTHOUGH over forty years have elapsed since Horace Wells took nitrous oxide gas and, while under its influence, had a tooth extracted without experiencing any pain, we have yet to discover the perfect anæsthetic. Of the many agents which have been proposed and used for the production of general anæsthesia, none is without its inconveniences and its dangers, and, despite its disadvantages, ether still maintains its ground as, on the whole, the best anæsthetic which we possess. We do not, of course, forget cocaine, but although this has been used with marvellous results in certain operations in which a comparatively small extent of tissue is invaded by the knife, it is hardly probable that it can ever be made available for the more extensive capital operations. And even should it, there would yet remain cases in which the production of general anæsthesia and unconsciousness would be necessary.

The danger of chloroform has been shown to be in direct proportion to the degree of concentration in which its vapor is inhaled, and efforts have accordingly been made, especially by M. Paul Bert, to so dilute the gas that its inhalation may be absolutely without danger. But it has been found that this dilution cannot be continued indefinitely, for a point is at last reached beyond which anæsthesia cannot be produced. And this limit is still within the danger-line.

But it has been known for a long time that the action of the anæsthetics is rendered more prompt by the previous administration of an hypnotic, such as morphine or chloral, and advantage has been taken of this to push along a little further the limit of maximum dilution. M. Dubois recently stated, at a meeting of the Biological Society of Paris, that he had found the new agent, hypnone, of great service in increasing the anæsthetic effect of chloroform. When one centigramme of this drug was given to a dog by hypodermic injection, it was necessary to cause the animal to breathe only a four per cent. mixture of chloroform and air in order to anæsthetize him. A mixture of this strength, as has been shown by Paul Bert, under ordinary conditions produces no effect at all. And, furthermore, in the experiments made by M. Dubois, it was found that the animal would awake from his anæsthetic slumber in about an hour, even though he continued to breathe the diluted chloroform, thus showing conclusively the influence of the hypnone. The same result was obtained by giving two centigrammes by the stomach instead of hypodermatically. No trials have yet been made upon the human subject, but we can see no reason why the drug should not act the same upon man as upon the dog.

Further trials with hypnone may show that it is not a safe hypnotic, and it has already been found that it is not a perfectly reliable one, since upon some individuals it seems to exert very slight effect. But all drugs are more or less uncertain in their action, according to the idiosyncrasies of the individual, and if hypnone acts only in the majority of cases, and acts safely, it will be not without value as an agent to lessen the dangers of chloroform administration.

SUCCESSFUL ANTHRAX INOCULATIONS.

THE disbelievers in Pasteur's method for the prevention of rabies, and especially his personal enemies, are wont to adduce in support of their arguments the failure of his inoculation method for the prevention of malignant pustule in sheep. The one class advances it as presumptive evidence that, having been mistaken in one case, he is in error also in the other; while his enemies assert that it is proof conclusive of his charlatanism. Some recent trials on charbon inoculation in Southern Russia would seem, however, to argue in favor of the value of this discovery. (*Allgemeine Medicinische Central-Zeitung.*) During the summer of 1885, Professor Zenkovski inoculated over thirteen hundred sheep on the estate of Bielaserka, in Kherson. As a result of the inoculations with vaccine matter of two degrees of strength, there was a mortality of from 1.8 to two per cent. A third inoculation with anthrax blood was without effect. In November a committee was appointed to test the protective efficacy of these experiments. They selected at random thirty sheep from the herd and inoculated them with anthrax blood, doing the same also to ten other sheep which had not been submitted to the protective experiments. Of the ten unprotected sheep nine died from anthrax, only one escaping. The thirty previously inoculated animals suffered for a few days a slight elevation of temperature, but none died. One was killed by dogs, and another died two weeks later from pleuropneumonia, but in neither of these were anthrax bacilli found either in the blood or in the tissues.

This would seem to be a fairly conclusive test of the protective value of inoculation, in anthrax at least. And as the annual loss among sheep from malignant pustule, in the Government of Kherson, is from twelve to twenty per cent., the reduction of the mortality to two per cent. is naturally regarded by the proprietors as a great gain.

INTUBATION OF THE GLOTTIS.

WE have alluded on several occasions to the practice of intubation of the glottis as a substitute for tracheotomy in membranous croup. The operation was first successfully devised and carried out by Dr. Joseph O'Dwyer, of this city, and in his hands has been attended with some degree of success. Recently the instruments have been procured and used by Dr. T. E. Waxham, of Chicago, and by Dr. E. Fletcher Ingals, of the same city. The former, at last accounts, had tried them in eleven cases, with four recoveries. In the *Journal of the American Medical Association*, for February 6th, Dr. Ingals states that he has employed intubation in two cases, and although both patients died, he is favorably impressed with the possibilites of the tubes.

The operation can be done so easily, it is so free from danger, it so promptly relieves serious symptoms, that Dr. Ingals believes it will become established as a standard therapeutic procedure among general practitioners.

He says: "Looking at the intubation of the glottis from our present standpoint, it seems well adapted for the following cases:

"1. For diphtheritic and croupous stenosis of the larynx occurring in children under three and one-half years of age.

"2. For cases of the same affections in older children in which from any cause the physician wishes to defer the operation of tracheotomy.

"3. For those cases in which consent to tracheotomy cannot be obtained.

"4. For those cases in which proper nursing could not be secured.

"5. For severe cases of spasmodic croup in children less than ten years of age.

"6. For simple stenosis of the larynx, not diphtheritic, in children.

"7. With proper-sized tubes it might be of value in the treatment of various forms of laryngeal stenosis in adults."

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS.—The next meeting of this body will be held the Monday evening preceding the opening of the next session of the American Medical Association in St. Louis, Mo. In view of promoting its success *The American Lancet* makes the following suggestions, viz.: "That instead of the usual gathering, for a few speeches, it be made more of a social affair. To make editors better acquainted with one another in a personal way is certainly desirable. To advance such acquaintance there is nothing so effective as a dinner. Hence it is suggested that the officers arrange for this in a proper way."

News of the Week.

STATUES TO THE FRENCH PHYSICIANS.—The French, above any nation, appear anxious to honor the memory of distinguished medical men by erecting statues of them. Efforts are now making to raise money for statues to Bretonneau, Velpeau, Trousseau, and Bouley.

THE CONGRESS OF GERMAN SURGEONS holds its fifteenth annual meeting in Berlin, April 7th to 10th.

OLEO-RESIN OF KAVA KAVA AS A LOCAL ANÆSTHETIC.—Dr. L. Lewin, author of "Untoward Effects of Drugs," has been making some experiments with kavakava, during the course of which he has discovered a substance, residing in the oleo-resin, which he declares has similar properties, as a local anæsthetic to cocaine. At the suggestion of Dr. Lewin, Messrs. Parke, Davis & Co., have prepared an oleo-resin of the drug, and from experiments made with it at their laboratory, the reports of its peculiar anæsthetic action are likely to be corroborated by the profession.—*Medical Age.*

INTERNATIONAL MEDICAL CONGRESS.—We have received an article on the International Congress in which such gentlemen in the United States and the Canadas as withdrew from the Congress are characterized as "wide-mouthed soreheads," "monkeys," "parrots," "wild asses," "kangaroos," and "skunks." The author asserts that all "this noise and din about the Congress is but the expression of disappointed ambition on the part of a few conceited orang-outangs." At a recent meeting of the Philadelphia County Medical Society there were one hundred and sixty-nine members who voted against the Congress, as at present organized, to thirty-nine members who voted for it. "Orang-outangs" must abound in Pennsylvania. The communication is anonymous, and it is well for its writer that it is so.—*American Practitioner and News.*

THE "JAW-JERK" is the euphonious and alliterative term recently contributed by neurology to medical science. It is different from, but in a manner, correlative with, the "chin-reflex." The latter is a superficial or skin reflex, the former a deep reflex, analogous to the ankle-clonus, and obtained by suddenly depressing the lower jaw and putting the masseters on the stretch.

DISPENSING POISONS.—A bill has been introduced in the New York State Legislature providing that after the first of next January it shall be unlawful to sell any sulphate or preparation of morphine or opium (except paregoric and preparations containing two grains or less of opium to the ounce) except from bottles or packages with scarlet labels.

THE PENNSYLVANIA LEAGUE FOR THE PROTECTION OF SCIENTIFIC RESEARCH is the title of an association recently organized in Philadelphia, and having for its object the prevention of any new legislation regarding vivisection. Dr. H. C. Wood is President.

THE GERMAN GOVERNMENT AND SECRET REMEDIES.—The Berlin Committee for the "Suppression of the Nuisance of Secret Remedies" have decided to present a memorial to Prince Bismarck with the following propositions: 1. In place of the imperial ordinance of January 4, 1875, there ought to be issued one which assigns the preparation, and the keeping and offering for sale, of all kinds of medicaments, inclusive of secret remedies and pharmaceutic specialties for sanitary purposes, in retail, exclusively to the apothecaries' shops. 2. For the restriction of the sale of secret remedies in the apothecaries' shops there ought to be instituted an imperial board, acting as a technical central office, having the function to examine and test every secret remedy before permitting it to be sold; to fix the price of such remedy; and to determine whether the drug or compound may be issued to the public otherwise than in the form of a physician's prescription. 3. To prevent an inundation of the market with foreign secret remedies and pharmaceutical specialties it is suggested that they should be subjected to a duty *ad valorem.*

MEAT LOZENGES AND MEAT SUPPOSITORIES are the latest contributions to elegant pharmacy. It may be truly said that the druggist's art has made both ends meat!

A NEUROLOGICAL SOCIETY IN LONDON.—A neurological society has been organized in London, with Dr. Hughlings Jackson as President, and Drs. S. Wilks and Sir J. Crichton Browne as Vice-Presidents. The scope of the society includes physiology and psychology.

MEDICAL LEGISLATION OPPOSED BY HOMŒOPATHS.—The daily papers state that at the monthly meeting of the New York County Homœopathic Medical Society last week, the Committee on Legislation reported against the bills about the appointment of a State Board of Examiners for the purpose of licensing physicians, especially that bill which provides that the board should consist of nine members, six of whom should be members of the regular school of physicians and only three of the schools of homœopathy and eclecticism.

COLLEGE OF PHYSICIANS AND SURGEONS.—We learn that Dr. J. C. Dalton, President of the College of Physicians and Surgeons, has filed with Superintendent D'Oench plans and specifications for the new college building in Tenth Avenue from Fifty-ninth to Sixtieth Streets. It is to cost about $250,000. The structure is to be four stories high and 140 by 182 feet. The front will be of terra-cotta and brick. W. W. Smith is the architect.

THE DEATH OF DR. AMÉDÉE DECHAMBRE, of Paris, is announced. He was editor of the *Gazette Hebdomadaire*, and was the *doyen* of the Parisian medical press.

POPULAR PREJUDICE AGAINST PHYSIOLOGY.—There is a curious popular prejudice against the teaching of physiology in the common schools. This has been illustrated by the story of the old lady who withdrew her daughter from a boarding-school because she "didn't want her to be taught about her insides." Reports state now that physiology is not a popular science in the rural districts of Pennsylvania. It is stated that in some parts of the State the school authorities find great difficulty in enforcing the law passed at the last session of the Legislature compelling the study of physiology and hygiene with reference to the effects of alcohol on the human system. Parents have objected in some sections to their children pursuing the study, and children have refused in others

under their parents' instruction. At Frankstown the school directors have encountered the latter difficulty, and a strong resolution has been adopted by the board with a view to meeting it, which they say they are determined to enforce.

MEDICAL PRACTICE BILL.—A bill to establish a medical board of examiners and licenses, and to regulate the practice of medicine and surgery in the State of Ohio, and to define the duties and powers of such board, will, says the *Cleveland Medical Gazette*, be presented to the Legislature of Ohio. Its provisions are much like those of the Minnesota law.

DR. W. E. JOHNSTON.—A cable despatch from Paris reports the death, February 14th, of Dr. W. E. Johnston, formerly of Sidney, O. Dr. Johnston was sixty-three years of age, had resided in Paris and practised medicine there since 1851, and had visited his native land only three times since first going to Paris. Dr. Johnston had been in feeble health for some time. He was one of the leading American physicians in Paris, and was well known to many of his countrymen and medical colleagues who visited that city. One of his latest letters to this country was directed to THE MEDICAL RECORD, and was upon the subject of the troubles of the International Medical Congress. Dr. Johnston was for many years a correspondent of the New York *Times* over the signature "Malakoff."

DIED IN THE DISCHARGE OF DUTY.—Another victim to the dangers of his professional work is reported in the person of Dr. James A. McCaughin, one of the volunteer staff at the Albany Penitentiary during the typhus epidemic. He was stricken with the disease about two weeks ago, and died on February 13th. Dr. McCaughin was about twenty-five years of age. He is the second doctor who has fallen there in the discharge of his duties. There are only three cases of typhus among the prisoners now.

THE LATEST "HABIT."—People appear to be able to acquire any morbid habit, from eating pie t.i.d. to taking opium. The *Medical Herald* reports the case of a man who contracted the habit of taking gelseminum. This he followed until he was able to take a fluid ounce at a single dose. He finally sank into hopeless idiocy and died in a stupor. One curious physiological effect was that his hearing became singularly acute. Perhaps otologists can make use of the fact.

ANOTHER MALARIAL GERM.—In Friedländer's *Fortschritte der Medicin* is contained an original article by Prof. Marchiafava and Dr. Celli, of Rome, describing the results of their studies on the nature of malaria. Their work was conducted for six weeks in the most dreaded section of the Roman Campagna. As a result, something truly wonderful has been found, namely, a micro-organism that is situated within the red blood-corpuscles and there leads a parasitical life. This relation to the red blood corpuscles is an absolute novelty, the micro-organisms that have been so far described in the blood being suspended in the plasma. The researches of the gentlemen named dispose of the bacillus of malaria described by Klebs and Tommasi-Crudeli.—*Weekly Medical Review.*

Reviews and Notices.

PRACTICAL HUMAN ANATOMY. A Working Guide for Students of Medicine, and a Ready Reference for Surgeons and Physicians. By FANEUIL D. WEISSE, M.D., Prosector (1863–65) to the late Valentine Mott, M.D., LL.D.; Emeritus Professor of Surgery and Surgical Anatomy, Medical Department of the University of the City of New York; Professor of Practical and Surgical Anatomy, Medical Department of the University of the City of New York; Professor of Anatomy, New York College of Dentistry. Royal octavo, 468 pages of text. Illustrated by 222 lettered plates. New York: William Wood & Co. 1886.

AN original work in anatomy is a conception quite difficult to realize. Dealing as it does with solid, incontrovertible facts, anatomy is a study which is generally narrowed to their systematic arrangement and detailed statement. Any departures from the ordinary routine must be made in one or both of these directions. From such a standpoint, Professor Weisse has given us a work somewhat original in design and thoroughly practical in its application of principles. Twenty years of teaching in practical anatomy have eminently fitted him for the task. Nature has been his text-book, and he has studied and reviewed its different pages with the single conscientious purpose of causing others to see with his eyes and interpret with him her many mysteries. It is clinical anatomy, so to speak, with the body on the table. His method of examining the body, and in detailing its appearances, is that of the skilled instructor who knows the wants of his students. They look over his shoulder while he makes his dissections, and the different stages of the study are fixed by the wonderfully realistic lithographic plates, prepared from elaborate sketches on the spot by the talented artist, Mr. Maximilian Cohn. So far as the dissections go, they make the study of anatomy as instructive and profitable as is possible without the actual presence of the body.

As before intimated, the plan of the work is in a great measure original. It is the outgrowth of a careful and loving study of the human body, extending over many years of careful preparation—the chart of a pilot who has personally sounded every fathom of his course. It is only possible to summarize an idea of its plan to enable the student to realize its scope and appreciate its excellences. Its basis is the division of the body into practical dissections, with their successive description and illustration. In other words, the different regions of the body are dissected and described in a natural order and practical manner, so that any student can appreciate the number and relation of the different organs in their respective planes. The illustrations include 153 full-page plates, comprising 51 plates of 132 original figures, 6 full-page plates from standard authors, 9 plates of 25 figures from other works, and 15 original text-figures. The descriptions of the dissections are systematic, terse, and thoroughly in keeping with the classical anatomical nomenclature of the day. They are indeed models of their sort, and leave nothing to be desired for the student who wishes to understand the subject in all its practical bearings. While saying thus much for the text of the work, we have much more of praise for the plates. They are indeed wonderful in their way, as faithful studies of actual conditions, and represent an amount of work on the part of author and artist which cannot fail to be appreciated by the student and practitioner. Especially will this be the case when it is known that the author has generously presented these plates to the volume, so that the price of the latter is no more than that for an ordinary text-book of its size. Typographically the volume is a model of its kind, William Wood & Co. having shared with the author the laudable ambition of making it the leading one in its department.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MATERIA MEDICA AND THERAPEUTICS.

Stated Meeting, Wednesday, January 20, 1886.

JOHN C. PETERS, M.D., CHAIRMAN.

DR. ANDREW H. SMITH read a paper on

THE TREATMENT OF DROPSY WITH APOCYNUM CANNABINUM.

Apoc"ynum Canna'binum (to use the pronunciation given by Dunglison), as employed in medicine, consists of the bark of the root of the plant having the above botanical name.

Popularly it is called Indian hemp, which name it shares with the utterly different drug cannabis indica. It is also called "wandering milkweed," and this name also it is compelled to share with another member of the same family, viz., androsæmifolium. This latter is often substituted for the apocynum cannabinum; and as it possesses active emetic and cathartic properties has probably contributed to discredit the diuretic virtues attributed to the latter by producing undesired and, indeed, untoward effects.

Apocynum cannabinum is an indigenous plant, and has long been known to the American profession. Its value in removing serous effusion from the pleural and peritoneal cavities so impressed Dr. Rush that he called it the "vegetable trocar." It was employed by the late Dr. Mott, but he considered it too active for any but sthenic cases. The attention which it has received in more modern times, scanty as it is, is due chiefly to the writings of Dr. Hervey Jewett, of Canandaigua, N. Y.

In a paper read before the New York State Medical Society, in 1869, and published in the "Transactions" for that year, he speaks in the most enthusiastic terms of his success in curing dropsy with this drug. He says: "As a tonic and diuretic I regard it as more efficient in the cure of general anasarca and in removing the accumulation from serous sacs than all other remedies known to the profession."

He recommends that in atonic dropsy, the patient being depressed and exhausted, small doses be given at short intervals. In sthenic cases, however, large doses should be employed, combined with potassium acetate or spirits of nitre. He adds: "If not complicated with organic kidney disease, there is invariably a rapid cure;" and "when incurable cardiac and other complications exist, and the effusion is the result of debility, it is the only remedy in my hands that has not disappointed me in giving temporary relief, promoting comfort, and prolonging the life of the patient."

Out of a large number of cases in which he had used this medicine successfully, Dr. Jewett cites three—one of cardiac dropsy, one apparently ovarian, and one in which there were hydrothorax, ascites, and general œdema. All were cured in a brief period. The preparation he employed was a decoction made with one drachm of the bark of the fresh root to eight ounces of water. Of this the dose was half an ounce every six hours.

At a meeting of the Medical Society of the County of Kings (N. Y.), in May, 1875, Dr. Hutchins read a paper, in which he referred to the experience of Dr. Jewett, and related a case of his own in which a man, sixty years of age, having general anasarca, complicated with pleuritic effusion and hydropericardium, was suffering from extreme dyspnœa, the result of the enormous distention. After the failure of all the expedients used to excite the kidneys, trials were made with the apocynum, using various specimens and preparations from well-known drug houses. All these were without effect, but when some of the drug was obtained from Dr. Jewett, of his own gathering, in forty-eight hours after the administration was begun, "the man who had been so frightfully distended was reduced to a skeleton."

Dr. Hutchins also relieved two cases of scarlatinal dropsy and one of phlegmasia alba dolens. He also spoke of the case of an old gentleman who was subject to attacks of dyspnœa from effusion into the pericardium, which were speedily relieved by very minute doses of the fluid extract frequently repeated.

For a letter received from Dr. Jewett by Dr. Hutchins, see MEDICAL RECORD, vol. x., p. 460.

In the discussion which followed, DR. ARMOR expressed the belief that the drug would be found useful chiefly in general anasarca, and in non-inflammatory serous dropsy. If the effusion was the result of serous inflammation, the lymph covering the serous surface would be a barrier to absorption. Dr. Armor had used apocynum with varying results, sometimes procuring a marvellously rapid reduction of the dropsy, and in other apparently similar cases obtaining no effect whatever. In these latter cases he had been equally unsuccessful with all other diuretic agents.

My own personal knowledge of the use of this drug is limited to its employment in three cases. The first was one at St. Luke's Hospital, some ten years ago, which I saw by the courtesy of Dr. McLane. This was a case of renal disease, with scanty urine and threatenings of uræmia. All the usual diuretic remedies had failed, when an infusion of apocynum excited profuse diuresis, and the danger was averted. The second was a case of my own, at the Presbyterian Hospital, in which the remedy was tried for the relief of cardiac dropsy. The result was not satisfactory, possibly owing to lack of care in the selection of the drug.

The third was one which occurred at the same hospital in October last. A woman, about forty years of age, had advanced chronic nephritis, with extreme incompetency of the mitral valve. There was general anasarca, including the face, with a large amount of peritoneal effusion, and the lungs were œdematous. There was extreme dyspnœa, the face was cyanotic, and the mind wandering. The daily amount of urine varied between six and twelve ounces. The usual list of diuretics had been exhausted with no benefit, and I remarked to the house staff that it seemed scarcely worth while to annoy the patient with further medication. However, as a last effort, a decoction of apocynum was prescribed, and with most gratifying results. In thirty-six hours the urine had increased to thirty ounces, and the urgent symptoms had subsided. Since then the patient has been fairly comfortable, and she is to-day in a much better condition than that of four months ago.

As to the mode of action of the drug, it would seem that it can scarcely be by direct stimulation of the glandular structure of the kidneys, else we should not find it valuable in scarlatinal dropsy, for instance, in which we suppose the kidney to be already in a state of irritation. Nor can it be through general increase of arterial tension, since apocynum has succeeded when digitalis and convallaria had failed. I would hazard the conjecture that the action is a special one upon the renal plexus, causing increased vascular tension in the kidney itself.

The drug has tonic as well as diuretic properties. Its taste is not disagreeable, though strongly bitter. It appears to me that it would have a favorable effect in atonic gout, with insufficient renal excretion as one of its factors.

In accordance with the rules of the Section the discussion of this important paper was postponed until the next meeting, but suggestions were made by Drs. Fox, Billington, Putnam-Jacobi, Fanning, Amidon, J. C. Peters, and others.

Then the discussion on the "Local and Dietetic Treatment of Chronic Rheumatism" was opened by Dr. Amidon.

At the next meeting a paper will be read by Dr. Billington on "The Treatment of Amenorrhœa with Permanganate of Potash."

Dr. A. H. Smith's paper will be discussed in full, and further discussion will take place on the treatment of chronic rheumatism. Physicians having experience with apocynum in the treatment of dropsy, will please communicate with Dr. A. N. Smith, or the chairman.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 8, 1886.

BEVERLEY ROBINSON, M.D., PRESIDENT, IN THE CHAIR.

(Concluded from page 191.)

THE PRESIDENT then reported two cases of

PERNICIOUS ANÆMIA.

CASE I.—Elizabeth K——, aged thirty, admitted to Dr. Robinson's service at St. Luke's Hospital, October 19, 1885. Dr. Mabbott, house-physician; notes furnished by Dr. E. B. Dench, Sr. The patient was a nursemaid. Her family history was negative. Denies venereal disease and the use of alcohol. Five years ago she fell and hurt herself. Since then the menstrual periods have been scanty, sometimes occurring every two weeks, sometimes every three or six weeks, and painful, the pain beginning two days before the flow, and lasting through it. Three years ago she had intermittent fever, tertian type, lasting about six months.

In December, 1884, she was exposed to wet and cold; does not remember whether during menstruation or not. Soon after had a chill; began to have severe pain over the hypogastrium and left inguinal region; vomited and had dyspnœa. For several days the temperature was 105° F., and for two weeks the symptoms, with the fever, continued. Then she got up for two weeks. At the end of that time (early in January) the pain, etc., returned, though the fever was less marked, and there was little vomiting. The urine was scanty, dark colored, burned when passed, sometimes had to be drawn, and once, for twenty-four hours, there seems to have been suppression. She had considerable pain in the back, much headache; had no œdema or ascites, no delirium; menstruation continued irregular and scanty; had much leucorrhœa. Had pain on pressure over uterus, and in left inguinal region. Thinks there was enlargement in hypogastrium. She remained as above stated until April, 1885, then got up. Two weeks later had a return of the symptoms, with diarrhœa; the stools often contained mucus, but no blood. For some time she was fed by rectum, retaining nothing on the stomach. There was much colicky pain and tenderness.

In July she was better for a week or two, then symptoms returned, disappearing about August 1st, to return about the last of August. She generally had considerable backache and leucorrhœa when up.

Two weeks ago pain and vomiting reappeared, though less severe. Has had no diarrhœa, no hemorrhages, no cough of importance. There is no history of pregnancy, abortion, or miscarriage. Has not menstruated since May, 1885.

On admission well nourished, anæmic, appetite poor, tongue somewhat coated; pulse, 96; respiration, 24; temperature, 98° F., P.M.; urine, 1.027, acid, no albumen, no sugar, contained urates.

October 20th.—Heart: Apex in fifth intercostal space, three and one-half inches from the median line. Distinct systolic murmur, loudest in second intercostal space, one inch from the left border of the sternum, also heard in the first and third spaces. Slight venous hum in the neck. Lungs negative. Moderate sensitiveness in epigastrium, and rigidity of rectus muscles. Slight sensitiveness in right ovarian region. Lower extremities negative. Vaginal examination: In the right cul-de-sac there is an indistinct outline of a soft body very similar in shape to an ovary, quite painful on firm pressure, of soft consistency. Same sensation not felt on left. Cervix quite far back in the pelvic cavity, os small, cervix conical—not enlarged. Uterus not distinctly movable, os points somewhat to left; uterus embedded in a mass extending in front of it and to the right, probably a pelvic cellulitis, probably double ovaritis with descent on right side; some anteflexion.

October 21st.—Began to menstruate.

November 3d.—Vaginal examination by Dr. James B. Hunter: Both ovaries probably constricted by the mass of exudation above the uterus, whence the pain and vomiting; mass felt behind the uterus is an ovary, not particularly tender, probably normal; uterus small, not retroverted.

The patient continued to vomit more or less, and complained of pain. The treatment was directed toward relief from these symptoms, and consisted in the adoption of a variety of measures.

On December 11th the attending physician examined the patient and the following note was made: Lungs: Dulness at right base; posterior breathing cannot be heard at right base; probably some effusion. Vaginal examination: Right vaginal cul-de-sac contains smooth, somewhat globular mass of infiltrated tissue, moderately tender. Left cul-de-sac free. Uterus somewhat movable. No mass felt per rectum except fundus uteri. Probably suffering from tubercular peritonitis. Examination of urine: 1.016, alkaline; albumen, small amount (three per cent); no sugar; few pus and epithelial cells, much ammonia urate. Urine drawn at 8 P.M., 1.018, faintly acid, albumen trace, many red blood-cells, few hyaline casts and sodium urates.

December 13th.—During the night was somewhat delirious. This morning pulse is rapid and feeble. Abdomen distended and tympanitic, patient semi-comatose. Patient remained semi-comatose during the day and died at 9.20 P.M.

Autopsy.—Body is emaciated, rigor mortis is faintly marked, no œdema. Bruise on forehead two inches by one and one-half inch in diameter. Diaphragm is at fourth rib at either side. Bowels very greatly distended. Peritoneum is normal. Pleura: Adhesions at left apex but no fluid in either cavity. Heart is small, valves are crepitant, muscular tissue yellowish, cavities moderately dilated. Lungs: Left is normal; right congested and moderately œdematous. Spleen normal. Kidneys are normal in size, organs lobulated, capsules not adherent; a good deal of fat in both organs, in the cortex. Bladder normal except a zone of intense hyperæmia about the orifice of left urethra extending up mucous membrane of the urethra about an inch. Ovaries are both normal, and the Fallopian tubes are normal. Uterus is normal. No evidence of pelvic cellulitis or cœliac peritonitis. Liver: Enormous amount of fat. Stomach: Mucous membrane is anæmic; common bile-duct is pervious. Intestines are enormously distended with gas and fluid fæces. Brain is intensely anæmic.

Microscopic Examination.—Heart: The transverse striæ are not distinct; the muscle-cells are granular, and in places distinctly fatty. The liver is so fatty that it floats in water; the liver cells can hardly be distinguished. Kidneys enormously fatty; fat everywhere within the tubes; there is no increase in the fibrous tissue.

CASE II.—J. B——, aged thirty-five, single, cook, entered St. Luke's Hospital, October 30, 1885. Family history negative. Had small-pox fifteen years ago; intermittent fever two years ago. Menstruation always regular; no uterine disturbance. Has always been strong, but complexion has been pale. For the last three years has had occasional feelings of epigastric oppression and slight pain shortly after eating, relieved by vomiting. Apparently the symptoms have not increased to any extent until the last illness. October 28th, about 6.30 P.M., suddenly felt dizzy; had feeling of great oppression over

epigastrium, but not much pain; severe pain in the back of head, and then had a large hæmatemesis of light fluid blood. Vomited blood, which became darker and clotted, at intervals, for three hours, entire quantity being about two quarts; was much prostrated; had severe occipital pain during the night and could not sleep. Vomited the next morning, and in the evening of October 29th had another small hæmatemesis. On the morning of the 30th she had a very dark-colored movement from the bowels. Never passed clear blood; never vomited blood before; never noticed any swelling of the abdomen, nor severe epigastric nor general abdominal pain. Neither has she emaciated at all. No pulmonary, cardiac, renal, or urinary symptoms. Patient drinks much tea and coffee, and moderate amount of alcohol, chiefly beer.

On admission, pulse, 114; respiration, 30; temperature, 99° F., 6 P.M.; urine, 1.024; faintly alkaline; no albumen; no sugar; pus and epithelium. Put on milk diet.

October 31st.—Examination by house-physician: Patient extremely anæmic, but not emaciated. Heart: Apex in fifth intercostal space, within nipple line; first sound over apex slightly impure; soft pulmonary systolic murmur; venous hum in vessels of neck. Lower border of liver, dulness two and a half inches above the free border of the ribs in right nipple line. Spleen negative. Abdomen everywhere resistant, but no sensitiveness in epigastrium, and no distinct mass made out. Slight fulness in epigastrium upon inspiration. Inguinal and axillary glands negative. Lungs negative. No œdema, minute varicose veins on lower extremities.

October 31st.—Examination by attending physician: Distinct abdominal pulsation one inch to right of median line on either side of umbilicus, and at least two inches below; force more marked on either side than elsewhere, more direct than expansile. Pulsation followed up to junction of right and left lobes of liver, and there is a feeling of hardness all along the line of pulsation over, above, and below umbilicus; with slight pressure of stethoscope a soft, blowing murmur heard, and above and to left of umbilicus distinct pulsation is seen.

November 1st.—Allowed beef-tea and eggs.

November 4th.—At 7.40 A.M. had hæmatemesis of nearly one quart of blood; fluid light-colored. Ergotin, gr. ij., hypodermatically. Internally, tannin, gr. x.; brandy, 3j.; aquæ, 3j., every half hour from 8 to 10 A.M. Ice-bag on stomach; cracked ice by mouth; nothing else by mouth. At 9.50 A.M. vomiting again, no blood.

November 6th.—Hæmatemesis of above four ounces.

November 12th.—4 A.M.: Temp., 104.6° F. 7 A.M.: Temp., 105.4° F. 9 A.M.: Temp., 104.4° F.

November 19th.—In the evening vomiting; temp., 10 P.M., 103.4° F.

November 20th.—About 10 A.M. patient went into collapse and died.

Autopsy, November 20th.—Body fairly nourished; rigor mortis absent; surface of body anæmic; no œdema. Peritoneum normal. Diaphragm normal on either side. Pleuræ: No adhesions; no fluid. Heart a trifle large, slight hypertrophy of left ventricular wall; valves competent. Lungs anæmic. Spleen rather small; otherwise apparently normal. Kidneys lobulated, surfaces granular, capsules adherent; cortices are a trifle thin, markings not distinct; organs extremely anæmic; fat and cysts in the cortices; suprarenal capsules normal. Pancreas firm; anæmic. Stomach: Mucous membrane thickened; organ anæmic. Intestines: Mucous membrane anæmic. Uterus and ovaries, anæmic. (The blood in the right cardiac ventricle was extremely thin and watery in appearance, more so, indeed, than I have ever seen. There was no ulceration or vascular opening upon the stomach-wall which could explain source of hemorrhages.) In small intestine was contained feculent matters colored with bile. In large intestine, and in small intestine for some distance above ileo-cæcal valve, was a fluid material very slightly colored with the bile and seemingly the remains of the enemata employed. There was no coating anywhere in the large intestine by undigested enemata, as sometimes occurs with beef-blood enemata. Example seen in St. Luke's Hospital several years ago, in which cæcum was filled with undigested beef blood, which apparently occasioned uncontrollable vomiting and death. Rise of temperature before death was supposed to be, (1) preagonistic, (2) due to sepsis, or (3) uræmic. Urine was examined and found to contain no urea some hours before death. Intravenous injection of saline solution had been thought of, and every preparation made for employing it, but the indications did not seem to be formal, in view of the small amount of blood lost in the latter days of life. Would it have been advisable—or, in such a case should intravenous injection of defibrinated blood (if any injection be made) be decidedly preferred? Blood examined under microscope after death showed no special change in relative number or appearance of red and white blood-corpuscles. Corpuscles were not counted.

Microscopical examination.—The following report has been furnished by Dr. Frank Ferguson:

1. Heart: Muscle-cells are unusually granular; transverse striæ are not plainly seen; some of the cells have undergone fatty degeneration. Organ very anæmic.

2. Liver-cells around the branches of the hepatic vein are pigmented; central veins are dilated; cells of the organ throughout are cloudy and granular. There is considerable fat at the periphery of the acini. Liver is anæmic.

3. The kidneys are very anæmic. Epithelium lining tubules granular very generally, and in places fatty.

4. The red marrow contains an unusual amount of fat.

Dr. Ball remarked that he was present at the post-mortem examination, and that there was no lesion found in the stomach to account for the hemorrhages. Taking into account the fact that the woman had been anæmic, he was inclined to the diagnosis of pernicious anæmia, that is, anæmia independent of any lesion apparent to the naked eye. The woman, when she was admitted to the hospital, had evidently lost blood and presented the appearance usually seen under those circumstances, and among the measures resorted to were rectal injections, which we all knew did not amount to much in the way of affording nourishment.

Dr. E. G. Loring said that in the eye, in cases of pernicious anæmia, large numbers of minute hemorrhages could be seen, and he thought that without very careful examination of the finer blood-vessels one could not say that rupture had not taken place.

Dr. Ball said that unquestionably there was rupture of blood-vessels in the stomach to give rise to that amount of hemorrhage, but to the naked-eye inspection the points at which they had ruptured could not be seen.

The Society then adjourned.

The Function of the Vermiform Appendix.—Dr. John H. Cipperly, of Troy, sends us an abstract of a paper read before the Rensselaer County Medical Society, in which he advances a novel theory concerning the function of the vermiform appendix. The ascending colon is supplied chiefly with longitudinal muscular fibres, while the cæcum has this muscular coat in less than one-half of its length, its lower portion being baggy and flabby. The intestinal contents are expelled through the ileo-cæcal valve into this baggy receptacle, and then are passed upward through the colon with much less rapidity. "Now," Dr. Cipperly says, "in the onward movement of this accumulation, when contraction takes place, the vermiform appendix, by the presence of air and gases in its calibre and secreting mucus, aids in the relief of this passage by averting a certain amount of suction on the walls of the cæcum, and thus modifies or prevents a commencement of intussusception."

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

A NEW THEORY OF THE ORIGIN OF DIABETES—THE DEATH OF JULES GUÉRIN.

PARIS, February 3, 1886.

AT a recent meeting of the Academy of Sciences, Dr. Boucheron read a paper, in which he enunciated a new theory as to the origin of diabetes and the diet best suited to the affection. Non-hereditary diabetics, said the author, are, like gouty subjects, those who make habitual use of a diet rich in albuminoid substances and in fermented liquors. A certain number of diabetics are also gouty, and they are nearly all azoturics. This observation corresponds with the experimental notion established long ago by Claude Bernard, that a diet exclusively albuminoid equally produces the glycogen of the liver and the glycogen diffused in the organism. Such are, for example, the experiments where dogs nourished exclusively with meat during several months presented hepatic glycogen, and larvæ of flies nourished exclusively with meat free from fat manufacture glycogen at the expense of the albuminoids. Hence it may be inferred that the albuminoid origin of sugar in animals coexists with the carbohydrated origin—the best known. In diabetes mellitus, the sugar derived from the albuminoids is as important, if not more so, than the sugar derived from the carbohydrates. In the therapeutics of diabetes, it is necessary to fix our attention to the sugar resulting from the albuminoids and that produced by the carbohydrates. Thus it would be useful to diminish the ration of albuminoids and that of the carbohydrates at the same time. The diminution of the albuminoids has the effect, not only of reducing the quantity of sugar and that of the collateral carbohydrates, but also of reducing the quantity of nitrogenous effete substances (urea, uric acid, ptomaines). The abstinence from carbohydrates only diminishes the sugar in leaving behind, sometimes to a great extent, azoturia with its dangerous effects; for the danger of diabetes does not exist principally in the sugar, which is but slightly toxic, since there exists a form of diabetes without sugar. The nocive substances of diabetes consist principally of the effete matters of the organism in a state of defective nutrition, which may be formed into two groups—the nitrogenous (urea, uric acid, animal alkaloids), and zoamines according to Boucheron, or ptomaines according to Selmi, or leucomaines according to Gautier. These irritating or toxic effete substances, in circulating in the vessels and impregnating the tissues, produce irritations of the nervous, circulatory, locomotor, digestive systems; lesions of the organs of sense, ocular and auricular diabetides, and lesions of the principal emunctories; lesions of the kidneys, of the skin, of the mucous membranes, of the glands, of the pancreas; finally, it produces toxic terminal effects. Their influence on the nervous system is undeniable. The therapeutical deduction from the above statements is that in limiting the carbohydrated elements, which is sufficient in a certain number of cases, it is well to limit also the albuminoids and alcoholic liquors. Oxygenation and active muscular exercise are necessary to promote combustion; drugs come next—alkalies, arsenic, the bromides, according to the symptomatic indications.

M. Paul Bert, the eminent biologist, has been appointed President-General of Tonquin, much to the surprise of many of his friends; for, whatever may be his merits as a scientist, and taking into consideration his political antecedents, he is regarded as anything but qualified for such an important post—but favoritism goes a great way under the present government of France. Such appointments almost always turn out unfortunate, particularly when, as in the present case, the candidate is a medical man; for, however eminent he may be in his profession, it does not at all follow that he would make a good diplomatist. In fact, the reverse has often been proved to be the case, for many men equally as eminent in the profession as Paul Bert had to relinquish high political posts to resume what they were evidently destined for. It is said that in going out to Tonquin M. Paul Bert will have a wider field for prosecuting his scientific studies than within the walls of the Sorbonne, but I am afraid that if he once gets out there he will have neither the time nor the inclination for such recreation; for, as suggested by your esteemed London correspondent, politics and medicine are quite incompatible unless the medical men who adopt the former will be content to proffer professional advice only. But even in this respect those who have undertaken such a task have, with rare exceptions, proved failures, as it is impossible for any man to do equal justice to two such important sciences as politics and medicine.

Jules Guérin, whose name has been familiar to the profession for more than half a century, died at Hyères, on Monday, January 25th, in the eighty-sixth year of his age. His health had been declining for some time, and he left Paris only a fortnight before his death to seek the rest that he was so much in need of. Dr. Jules Guérin was one of the oldest and most eminent members of the profession in this country. His discussions at the Academy of Medicine, of which he was a most distinguished member, are masterpieces of scientific reasoning, though it cannot be said that he was always in the right. He was a great sceptic, and he marked his place at the Academy as a vigorous disputant, but of the most eccentric character. He stoutly combated the modern theories of cholera and the microbian doctrine of disease. He was altogether sceptical as to the supposed discoveries of Koch and Pasteur, and particularly of the latter in regard to his inoculations for hydrophobia. Notwithstanding the eccentricity of his opinions, he was considered a great authority by his colleagues. He was the author of several important works on deformities of the osseous system, orthopædics, and subcutaneous tenotomy. He was the founder of the *Gazette Médicale* of Paris, and during the last three or four years of his life he was engaged in making out a catalogue of his books, of which he had a vast number, and of those of which he was the author he published, in the form of extracts, a quarterly review, which is a most interesting work, and well worth consulting.

VARIATIONS IN THE DIABETIC DIET.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The sufferer from diabetes who is condemned to use the ordinary gluten loaf must sometimes feel that he is on worse than prison fare. I annex certain recipes which were sent me by a devoted wife, whose husband was suffering from diabetes, and who was also skilled in the culinary art. I suggested to her that she should endeavor to evolve something palatable out of the gluten flour which was to form a principal article of his diet. The gluten is still there, but by turning the prism we practically change and vary the view. I give the directions mainly as they came to me.

Gluten gems.—Mix in a batter two cups of gluten flour, two cups of milk, two eggs, and a sufficient quantity of salt. The mixture must be baked in a *sharp* oven for fifteen or twenty minutes. The gem-pans must be hot and well greased when the gems are put in.

This same mixture may be used for pancakes; also baked in a pudding-dish and eaten for dessert. A sauce of equal parts of milk and water heated together, sweetened with glycerine and flavored with cinnamon, makes it very palatable. The addition of a little sherry wine, *if allowed*, is an improvement. The same mixture baked in jelly-pans and put in layers, with strawberries between each and also on top of the last, is a very fine strawberry

shortcake, or an excellent substitute for it. The *cup* referred to in this mixture represents half a pint. In connection with the matter of measurement, it is worthy of note that sometimes the flour is much heavier than at others and requires much less than two cups.

The almond flour has for some time been placed in the diabetic dietary. The formula beneath was sent me for the preparation of the almond bread.

Take one-quarter of a pound of almond meal and four eggs. Separate the yolks from the whites, and whip the whites moderately into a strong cream. Stir the yolks (well beaten) in lightly, add the almond meal, and bake in a tin in a slow oven. The oven should be as hot as for any other bread, and this quantity will bake in about thirty-five minutes.

Gluten biscuit, when well made, are far more agreeable to the taste than gluten bread. To make these mix together two cups of gluten flour, a scant even teaspoonful of baking powder, a "pinch" of salt, and a sufficient quantity of sweet milk. They are to be baked like other biscuit.

To the sick man diet is of more interest than pathology, and the diabetic patient will presumably derive more comfort from these formulas than from an exact diagnosis of his case, or positive information as to whether his disease be of nervous or glandular origin.

Respectfully,

F. A. BURRALL, M.D.

48 WEST SEVENTEENTH STREET.

"DR." OR "M.D."?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I would like to speak of a subject of medical etiquette that has puzzled me somewhat. It is customary for physicians, at least about Boston, to have their cards engraved with the prefix "Dr." to their names. This seems to me wrong, from a medical as well as social standpoint. From a medical standpoint, because the abbreviation "Dr." does not distinguish whether a man be physician, dentist, veterinary, lawyer, or divine, all of whom have the legal sanction, and the first three the sanction of custom, for the use of the term "Doctor." Social customs permit one to place upon his cards, if he so wish, whatever titles he may possess. Now, the term "Doctor" is merely part of a title, and aside from its ambiguity it contravenes the law of etiquette. If written at all before the name it should be thus: "Doctor of Medicine A——." The correct method would seem to be to sign, after the name, such letters as designate the title, as "M.D.," "D.M.D.," "LL.D.," etc.

R. CYRENE MACDONALD, M.D.

CHELSEA, MASS.

[Our correspondent is undoubtedly right. Physicians' cards should be printed with the title "M.D." after the name. We have heard the excuse given for the present custom that many people do not know what "M.D." means.—ED.]

SKUNK-BITE AND HYDROPHOBIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Apropos of the present excitement relating to hydrophobia, I would call your attention and that of the profession to a report of an assistant surgeon, U.S.A., stationed at Fort Riley, Kan., in 1872, and published in a medical journal (the only one at that time), name and month forgotten, at Kansas City, Mo., in which he stated that of fifty cases of hydrophobia that he had collected, a part of which came under his own observation, they were traced directly to the bite of the skunk.

Perhaps some member of the profession, with a memory less treacherous than mine, can give the name of the author and the exact date of the publication of the article, or perhaps the journal referred to, can be obtained, if you give a little prominence to the subject. I know that the article impressed me very strongly at the time, as *almost* establishing the fact that this disease is caused by an inherent poison in the saliva of this odoriferous animal. The skunk referred to is the smaller of the two animals that pass indiscriminately under that name, but which on the prairies of this State are divided into skunks and polecats, the latter being more than as large again as the former, but imparting the same effluvia upon provocation; but, as I remember, the doctor referred to did not charge the polecat with this hydrophobic property.

A. G. CHASE, M.D.

MILLWOOD, KANSAS.

[The article to which reference is made was written by John G. Janeway, Assistant Surgeon, U.S.A., and will be found in THE MEDICAL RECORD, vol. x. (1875), p. 177.—ED.]

New Instruments.

AN IMPROVED ORO-NASAL RESPIRATOR.

BY W. H. GEDDINGS, M.D.,

AIKEN, S. C.

AFTER the publication of Koch's discovery of the bacillus tuberculosis, I tried the various apparatus which had been devised for antispectic inhalations, and found all of them more or less impracticable or useless. The best of them proved to be the so-called Blake-Mackenzie respirator, a modification of an instrument devised by Curschman, in 1880, and subsequently improved by Hausmann. But this instrument, notwithstanding its

great utility, being of metal, was heavy and cumbersome, and most patients preferred the neat little celluloid instrument of Meyer and Metzger, of London; but this being unprovided with the rim of soft rubber tubing, permitted the free passage of air between the instrument and the face instead of through the medicated sponge. It struck me that if this little instrument could be provided with the soft rubber tubing of the Blake-Mackenzie, we could have a neat and serviceable respirator; but on applying to the instrument-maker, I was met with the objection that there was no cement by which the soft rubber could be attached to celluloid.

Since then Messrs. Tiemann & Co. have made for me an instrument combining the advantages of the two, which, with the improvements I am about to mention, makes it the most perfect respirator that has as yet been devised, and one which, for antiseptic inhalations, is second only to the costly and often inaccessible pneumatic cabinet. By referring to the above cut, it will be seen

that in form it resembles the Blake-Mackenzie respirator; but, being made of hard rubber, it is lighter and less ungainly in appearance.

A serious objection to all the oro-nasal respirators that I have seen is, that the valves closed imperfectly, and being made of rubber cloth, would soon curl up and become entirely useless. To overcome this difficulty, I have provided the valves over the lateral openings of the instrument with brass springs which close tightly during inspiration, and thus force the air to pass through the medicated sponge contained in the anterior cup of the instrument. As the sponge or the absorbent cotton in this cup offers sufficient resistance to the passage of air during the expiratory act I have dispensed with the central valve as useless.

Should one of these springs break, and the valve become useless, it may be readily replaced by loosening the screw and inserting a new one, and this can be done at a very trifling cost.

The substances I have thus far used with the most advantage have been eucalyptus oil and the following formula, for which, I think, we are indebted to Mackenzie:

℞. Thymol ..... gr. xl.
Æther. acetic ..... ♏ xl.
Æther. sulph ..... ♏ v.
Creasot ..... ♏ xl.
Terebene ..... ad ℥ j.

Ten drops of either of the above should be dropped on the sponge or cotton. To be effective the instrument should be worn for several hours each day, suspending its use or shortening the duration of the inhalation if the patient complains of headache, or if the face becomes flushed.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 7, 1886, to February 13, 1886.

TILTON, HENRY R., Major and Surgeon (Fort Wayne, Mich.). Granted leave of absence for two months, to commence on or about March 1, 1886. S. O. 8, Division of the Atlantic, February 9, 1886.

SHANNON, WILLIAM C., Captain and Assistant Surgeon. Ordered for duty at Fort Warren, Mass., relieving Assistant Surgeon John M. Banister, who will return to his proper station (Fort Adams, R. I.). S. O. 27, Department of the East, February 6, 1886.

EDIE, GUY L., First Lieutenant and Assistant Surgeon. Ordered for field duty in New Mexico, with troop "K" Eighth Cavalry. S. O. 23, Division of the Missouri, February 8, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 13, 1886.

CRAWFORD, M. H., Passed Assistant Surgeon. Detached from the Shenandoah on the 8th instant to await orders.

RUSH, C. W., Assistant Surgeon. Detached from the New Hampshire on the 15th instant, and ordered to the U. S. R. S. Franklin.

THE TREATMENT OF SOFT CHANCRE by means of salicylic acid is highly praised by Dr. Falco, of Barcelona. The sore is washed twice daily with a carbolized solution, and then dusted over with finely powdered salicylic acid. In a number of cases treated by this plan, the average time required for a cure was five and one-half days.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 13, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
February 13, 1886	1	6	35	4	10	77	9	0
Deaths.								
February 13, 1886.....	0	3	13	4	0	48	2	0

THE OPERATION FOR THE ALLEVIATION OF DEAFNESS.—Dr. Jefferson Bettman, of this city, writes: "In a recent issue of THE MEDICAL RECORD, just to hand, an article treating of 'A New Operation for the Alleviation of Persistent Deafness' attracted my notice. It is merely in the interests of scientific accuracy that I disavow the claims of this operation as an 'innovation.' The operation, as described by Dr. Bates, accords completely with that practised and published by Professor Joseph Gruber, of Vienna, in 1873. The articles treating of this subject can be found in the *Allgemeine Wiener Med. Zeitung*, January 7, 14, 21, 1873, under the full title: 'Die mehrfache Durchschneidung des Trommelfells als Heilmittel gegen primäre oder mit Trübung einhergehende Spannung desselben.' The operation of plicotomy (the division of the posterior fold of the membrane) was, however, described a year previous to this by Lucae (Langenbeck's *Archiv*, Bd. xiii.). As the views of the two eminent Viennese aurists, Gruber and Politzer, militate in so many points of minor or greater importance, it is not surprising that the latter should have advocated the same operation (vide *Wiener Med. Wochenschr.*, 1871) in diametrically opposite conditions of the membrane, *i.e.*, flaccidity or relaxation. Since then much has been written on this subject, and those who are interested will find the complete bibliography in Schwartze's most admirable 'Handbook of Aural Surgery.' The improvement in hearing frequently following the operation (myringotomia multipl.) is almost unexceptionally but transitory in nature. This has induced the majority of experienced observers to abandon it of late. As experience has shown that most of these operated cases gradually lapse into their old state, it at the best requires one or two years to determine accurately the curative effect of the operation."

SUCTION OF THE TUBE AFTER TRACHEOTOMY.—Dr. Suñe y Molist uses a flexible catheter, to which is attached a rubber bulb, in order to remove obstructions in the trachea after tracheotomy. The eye of the catheter is cut off smoothly, and the instrument is then introduced through the tube, the bulb being compressed. The latter, by its expansion, draws the mucus and fluid out of the trachea. It is then removed from the extremity of the catheter, emptied, and again attached while compressed. This operation can be repeated a number of times very rapidly. In this way the dangerous expedient, which is sometimes resorted to, of sucking on the tube is rendered unnecessary. The catheter should be carefully disinfected prior to its introduction.

A NEW MODE OF ADMINISTERING THE PHOSPHATES.—Dr. Cano Quintanilla writes in *El Dictamen* that the phosphates, which theoretically ought to give good results, do not always do so, because of their insolubility. He says that this difficulty can be overcome by making use of cows or goats. He gives two ounces a day of

phosphate of lime, mixed in the feed, to a cow, or five drachms to a goat. In a few days the animals' milk becomes much thicker, and is found to contain a large amount of phosphate of lime in a soluble state. This milk may then be given to patients when the phosphates are indicated. The author has employed this method with success in rachitis.

MENTAL STRAIN AND MENSTRUATION.—Schrader has found amenorrhœa very common among young women studying midwifery—in one class of 114 students, 65, or fifty-seven per cent., being thus affected. In most of these menstruation ceased immediately after they began their studies, and the writer attributed it to the increased mental activity and the modification of the blood-supply occasioned by the greater demand of the cerebral tissues.

THE TREATMENT OF CONSTIPATION.—A correspondent sends the report of a case of obstinate constipation cured without medication by the formation of a habit of regularity in seeking an evacuation of the bowels. The first attempts were unsuccessful; but by making the effort at the same time every day, the patient finally acquired a regular habit and has never since been troubled with constipation. The writer says that by habituating the stomach to receive food at any certain hour, a habit is finally formed, and hunger comes at that time. In the same way the rectal nerves may be cultivated so that there is an effort at expulsion of the contents of the viscus at a definite hour.

THE PREVENTION OF CHOLERA.—Dr. A. S. Ashmead writes that when he was in Jaffa, in 1874 and 1875, he was in the habit of using, in cases of diarrhœa, as a preventive of cholera, the mycoderma aceti, or mother of vinegar, in alcohol, with camphor-wood shavings. This was suggested by Pasteur's plan of rapid acetous fermentation with beech-wood. As there was no epidemic of cholera in those years, the value of the prophylactic could not be determined. The writer asks whether this remedy has been tried by others, and if so, with what success.

AN INSTANCE of CATALEPSY caused by an examination of the ear is related by Dr. Medina, of Chili. The patient was somewhat nervous, and the introduction of the aural speculum was followed by a well-marked attack of catalepsy, which was, however, of short duration.

ANATOMICAL LESIONS IN ADDISON'S DISEASE.—Dr. Jurgens has made a number of examinations of the abdominal nervous system in Addison's disease. In every case the terminal intestinal nervous plexus was intact; in some instances there was marked degeneration of the ganglion-cells of the solar plexus; and in every case, without exception, there was found gray degeneration of the medullary nervous fibres in the two splanchnic nerves. This alteration was sometimes primary when there was simply atrophy of the suprarenal capsules, and sometimes secondary or consecutive to lesions in the capsules or pancreas. In every case which came under Jurgen's observation, in which the lesions of the suprarenal capsules or pancreas were not accompanied by the bronzed discoloration of the skin, the roots of the splanchnic nerves were found intact.—*Revue Bibliographique des Sciences Médicales*, No. 21, 1885.

QUININE IN THE TREATMENT OF ASTHMA.—Among the many drugs mentioned by different writers as occasionally of service in asthma quinine sometimes appears. But it is seldom spoken of as possessing any great value, and seems to be admitted to the list merely from the habit that many authors have of recommending quinine whenever all other remedies have failed. In an article in the *Rivista Clinica e Terapeutica*, for January, 1886, Professor C. Federici speaks much more favorably of the drug, and says that for a number of years he has placed his chief reliance upon it in the treatment of this troublesome affection. The paroxysms of idiopathic asthma occur ordinarily during the night, while the remissions take place in the day, and this periodicity, the writer considers, is sufficiently marked to offer an indication for the use of quinine. He usually gives the bisulphate, though occasionally the valerianate, in three doses of six grains each per diem. The first dose is given at dusk, and the two succeeding ones at intervals of one hour. When a patient is very nervous or is troubled with insomnia, even when the asthmatic paroxysms are absent, he adds half a grain of extract of opium or a third of a grain of extract of belladonna. When the paroxysms are overcome the dose of quinine is gradually reduced. If much bronchial catarrh is present the writer gives, in addition, some ipecac or carbonate of ammonia. Professor Federici claims to have obtained excellent results in the treatment of simple asthma by this method.

PERICARDITIS AFTER WHOOPING-COUGH.—Dr. Racchi relates the case of an infant, aged four months, who was attacked with pertussis of very severe type, resisting the action of the various remedies used. Examination of the chest revealed the presence of capillary bronchitis, with emphysema of the anterior and inferior portions of the lung, but there were no signs of a cardiac affection. The child died, and at the autopsy were found the lesions of a well-marked sero-fibrinous pericarditis. In order to determine the relation of this affection to the whooping-cough, the author instituted a number of experiments upon rabbits. Microscopical examination revealed the presence of schizomycetes in the exudation in the larynx, minute bronchi, and pericardium. These were in the shape of round poli-nucleated cells, and of rods, both endowed with power of motion. Some of the exudation was placed within the larynx of each of those animals, one receiving that from the larynx of the dead child, another that from the terminal bronchioles, and the third the pericardial fluid. At the end of two or three days the animals began to cough, and in eight or ten days the cough assumed the convulsive character of pertussis. Then three other rabbits were similarly treated with the laryngeal exudation taken from those previously experimented on, and at the same time a healthy rabbit was placed in the cage of each one of those with pertussis. Each one of both these sets acquired the affection. An accidental occurrence also gave additional proof of the nature of the disease and of its contagiousness. Two children gained admittance to the room in which the rabbits were placed, and played with them for some time. In a few days each of these children began to have the characteristic cough of pertussis. Two of the rabbits died and two were killed; in one there was well-marked pericarditis, in the others the pericardium was intensely hyperæmic. The author was thus led to look upon the pericarditis as a direct result of the whooping-cough, the schizomycetes being carried to the pericardium through the medium of the general circulation, and finding there a soil rendered favorable by the constant slight traumatism caused by the act of coughing.—*Rivista Clinica e Terapeutica*, January, 1886.

THE PHILOSOPHY OF DRINKING LARGELY.—Not very long ago those unhappy folk who go wearily and sadly, because, forsooth, they are waxing fat, were warned to leave off drinking largely and to minimize the quantity of liquid they consumed (*The Lancet*). Never before, perhaps, was there a more mischievous "fad" imposed on a too credulous public than this reduction of the amount of fluid taken. Now the obese are, by the rotary madness of the crazy in physic, counselled to drink deeply. This, at least, is a safe policy, and whether or not it does anything in aid of the removal of fat, it will certainly not produce the evil consequences which have in too many cases been brought about by the abstinence from solvents and diluents. Our concern is not with the "anti-fat" movement; with this we have no sort of sympathy, except in so far as an accumulation of

adipose tissue may chance to be morbid. Meanwhile there are physiological facts in relation to drinking which ought to be recalled by those who know them, and brought to the knowledge of the unskilled in medicine, because they concern the promotion of health. Thus it is essential that there should be constantly passing through the organism a flushing, as it were, of fluid, to hold in solution and wash away the products of disassimilation and waste. Those who do not recognize the fact that three-quarters by weight of the entire organism is normally composed of fluid cannot fully realize the great need which exists for a copious supply. If there be not a sufficient endosmose, the exosmose must be restricted, and effete matters, soluble in themselves, but not dissolved because of the deficiency of fluid available, will be retained. Take, for example, the uric acid; this excrementitious product requires not less than some eight thousand times its bulk of water at the temperature of the blood to hold it in solution; and if it be not dissolved it rapidly crystallizes, with more or less disastrous consequences, as in gout, gravel, and probably many other less well-recognized troubles. We only mention this particular excrement by way of illustration. In all, it may be fairly concluded that not less than three and a half pints should be consumed by any person in the twenty-four hours, and when the body is bulky four or even five pints should be the average. It is, moreover, desirable that the fluid thus taken should be in the main either pure water or water in which the simplest extracts are held in solution. When fluid taken "as drink" is itself heavily charged with solid matter, it cannot fairly be expected to so entirely rid itself of this burden in the process of digestion and absorption as to be available for solvent purposes generally, although the separation between solid and fluid ingredients of the food is doubtless fairly complete in the processes preparatory to assimilation. The aim should, nevertheless, be to supply the organic needs in this particular abundantly, and with such fluids as are not overloaded with solids, but simple and readily available as solvents. Another urgent reason for drinking freely of bland fluids is to be found in the need of diluents. This is something slightly different from mere solution. Many of the solids of the tissue waste are of a nature to irritate and even disorganize the kidney, if they be brought to that organ for excretion in too concentrated form. There is no reason to suppose that the kidneys are liable to suffer from overwork if the specific excreting power of the kidney-cells be not too heavily taxed. If only the products of disassimilation be diluted, so that they can be passed through the kidney by the simple process of exosmosis, the organ will discharge its function without injury or exhaustion. As a matter of fact and experience, those who drink innocuous and unstimulating fluids freely do not suffer from kidney trouble, but are almost uniformly healthy, at least so far as the excreting functions are concerned. It is a popular fallacy that the kidneys may and ought to be relieved by the determination of fluid to the surface of the body and perspiration. Except in cases of organic disease of the kidney, or where, as in the elimination of a special product, it is desirable to use the skin as an emunctory, the fluid diverted from the kidney is wasted so far as flushing purposes are concerned.

Registration of Veterinary Surgeons.—At a meeting of the New York State Veterinary Society, held in the Cooper Union last week, it was decided to send a committee to the Legislature to urge the passage of a bill compelling veterinary physicians and surgeons to register in the County Clerk's office. Persons not so registered are to be prohibited from practising veterinary medicine or surgery for compensation or reward. No person is to be entitled to register unless graduated from a legally chartered college or university, organized at least one year before the passage of the bill. Any person who has been in veterinary practice for a livelihood at least five years preceding the passage of the proposed bill, without having obtained a diploma from a college, may register upon depositing with the County Clerk affidavits concerning his term of practice. The book in the County Clerk's office is to be known as the "Veterinary Medical Register," and every man whose name goes on it must pay a fee of $2. Fraudulent registration or violation of the act is to be made punishable by fine or imprisonment, or both.

Inversion of the Uterus.—At a meeting of the Surgical Society of Paris, held on December 23, 1885, M. Defontaine reported the case of a woman who had suffered from inversion of the uterus for thirteen years. She had been confined at this time, and apparently everything had progressed favorably, but she soon began to suffer from metrorrhagia. A tumor was discovered, and diagnosed as uterine polypus, but upon an attempt being made to remove it with the écraseur it was found to be the inverted uterus, and the surgeon desisted from further efforts to remove it. M. Defontaine saw the patient one year ago, and after numerous attempts to reduce it by lateral taxis and Gariel's pessary, he determined to operate. He employed an elastic ligature, and at the end of twelve days the tumor became detached. The woman is now in good health.

Treating Dysentery with Cocaine.—We have received many letters inquiring about Dr. Winter's method of treating dysentery with cocaine. His treatment of a young child was as follows: Ten drops of an eight per cent. solution, in one drachm of water, were injected into the rectum, which relieved the tenesmus for two hours; then twenty drops of the same solution, in a drachm of water, were injected. This was repeated every five, six, or eight hours, according to indications.

Illegitimacy in Peru.—Dr. J. W. Kales, of Franklinville, N. Y., writes that the distinction which Lima enjoys, in respect to its number of illegitimate births, is apparently not of recent growth. He quotes the following extract from a work on geography published in Glasgow, in 1805: "In the province of Quito the Indians are said to have a custom of a very singular nature. A young man, instead of wishing to be the first to gain the affections of her whom he wishes to espouse, is seldom willing to accept her hand until she has been not only courted but enjoyed by another, alleging that it degrades him to marry a woman of whom no other man has endeavored to make a conquest. . . After marriage the women are remarkably chaste."

Providing for the Insane in Tennessee.—During the past two years Tennessee has been actively improving the accommodations for her insane. The hospital at Nashville, under the care of the distinguished alienist Dr. John H. Callender, has been overcrowded for several years. A new Asylum at Lyon's View, near Knoxville, in East Tennessee, is nearly completed, and was expected to be open for patients in December last. The State has also made an appropriation for another asylum in West Tennessee, and a commission is now engaged in selecting the most appropriate location.—*Journal of the American Medical Association.*

Deodorized Iodoform.—A correspondent asks us for something that will deodorize iodoform in powder. Herr Oppler recommends the following formulæ: Iodoform (pure), 50 grammes; roasted coffee, in very fine powder, 25 grammes; a few drops of spirits of ether; or, iodoform (pure), 2 grammes; paraffin, 10 grammes; roasted coffee, in fine powder, 0.3 gramme.

Delegates to the American Medical Association.—According to *Public Opinion*, published at Chambersburg, Pa., the County Society, which recently met and elected delegates to the next meeting of the American Medical Association, chose men who are opposed to the policy developed by the present and past managers of the International Congress.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 9 NEW YORK, FEBRUARY 27, 1886 Whole No. 799

Original Articles.

MIRROR-WRITING AND OTHER PATHOLOGICAL CHIROGRAPHY OF NERVOUS ORIGIN.[1]

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NEW YORK.

THERE is nothing which bears the stamp of personality more than handwriting, not even excepting speech, since that is evanescent. The written page exhibits the thought petrified. A sound, a word falls on the ear and is forgotten, or only recalled with endeavor; a thousand years may pass and the hieroglyphics of dead Pharaohs present their thoughts living and palpable to the children of to-day. The motto written by the Pompeian baker in the yielding dough of his bread remains unchanged to this very hour, eighteen centuries after its maker has crumbled to dust, overwhelmed by that terrible storm of Vesuvian ashes. It is through his writings that the philosopher or poet, scientist or savant, though dead, lives.

As the members of the body are the servants of the brain to carry out its will in motion, as the vocal organs express its thoughts in sound, so in the act of writing the hand embodies the subtleties of cerebral action. It is therefore in writing that we may find expressed deviations from normal nervous conditions, sometimes too slight to be indicated in any other way.

Before passing to a consideration of the pathology of handwriting, we will first glance at the physiology.

PHYSIOLOGY OF HANDWRITING.—Erlenmeyer,[2] Bianchi[3] and Poore[4] have analyzed the groups of muscles used in the act of handwriting. Says Poore, in the grasping of the pen, in the up and down motions of the fingers, in forming the letters and the swaying motion of the forearm in guiding the pen across the page there is scarcely a muscle from the shoulder to the fingers which is not brought in play.

1. *Act of prehension.*—The grasping of the pen is accomplished by the intrinsic muscles of the hand, the interossei, especially of the first two fingers, the abductor pollicis, the opponens pollicis, and the flexor brevis pollicis. The phalangeal angle of the thumb is maintained by the extensor primi internodii pollicis.

2. *Poising of the hand* is accomplished by the supinators, including the longus and brevis, and possibly the extensors of the thumb.

3. *Stroke movements* are accomplished by the long flexors of the thumb, the flexor profundus digitorum, the extensor communis digitorum.

4. *Movements from left to right* are accomplished by the extensors and triceps; right to left, by the pectoralis.

At no time in the act of writing are less than two nerves called upon to supply the impulse, often more. Marcé[5] was the first to suggest that there is in the cortex an independent centre for writing as well as for speech, with which it is intimately connected. Charcot,[6] Pitres,[7] Lichtheim[8] evolved this idea of a writing-centre into a word-motor representation centre, situated at the base of the left third frontal convolution, near Broca's centre of speech. There are, moreover, the auditory centres, supposed to be situated in the temporal convolution, and the ocular centres, situated in the parietal; but the exact location of these centres and their inter-commisural tracts are problems yet to be solved, and which doubtless will be, as so much interest is felt in it and investigation is directed toward it.

From the hieroglyphic writing of the ancients, from the sculptured signs of Indians and Mexicans, from numerous word signs, as of the Thibetans and Japanese, as numberless as the ideas and as the objects which they represent, our own modern handwriting has attained its peculiar form. Every people, says Bianchi, use the right hand, whether the characters traced are written from right to left, from left to right, or from above downward, or whether the letters flow in succession after each other or are written one by one. The cause of the use of the right hand, and that the formation of the writing should be obtained by a centrifugal movement, are matters which have also been discussed, more especially by Erlenmeyer and Bianchi, as well as others who have written on mirror-writing. Erlenmeyer maintains that the centrifugal motion, whether with one hand or the other, is that which is easiest and most natural. Gestures are so made. The pushing motion is stronger than the centripetal motion. The centrifugal motion is made with the right hand preferably because most motions are performed more readily with the right than the left hand. The cause of this, again, he thinks, resides in the fact that we are left-brained, the left brain is so much better nourished than the right.

However it has come about, we have a handwriting arranged to be written from left to right, with the right hand, either from careful education in the matter or from a deeper physiological underlying cause; a beautiful system, according to some writers, a flowering of our civilization, an elegant outgrowth from barbaric hieroglyphics.

Is this so? On the contrary—does not this writing strain the weakest muscles of the hands, and take four or five times as long as is necessary for the representation of a word? as is shown by the fact that when we wish to have what is spoken written as fast as it comes from the lips, we employ a stenographer. Why are we not all stenographers? Simply because we follow blindly the example set by our ancestors. If we vary, it is only according to some fashionable vagaries in rounding or pointing our letters, and following certain national characteristics. If one-half the pains were taken to teach a child phonography as is to hold the pen in a cramped, awkward position, such as is figured in books for improved penmanship, there would result not only a saving of time, which is something in these days of hurry and struggle for accomplishment of all that is to be done, but a great strain on the muscular and nervous apparatus employed in elaborating writing. In view of the increase of writer's cramp, due to the extraordinary amount of writing to be done by book-keepers, book-writers, teachers, and savants, a new method of writing should be intelligently discussed. That writing is one of the least cast-iron inventions of man is proven by the fact that within the last half century two entirely different methods of representing ideas by written symbols have been invented. These are the phonographic characters and the system of dots and dashes which are used in telegraphy.

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[1] Read before the New York Neurological Society, January 5, 1886.

[2] Die Schrift Grundzüge ihrer Physiologie und ihrer Pathologie. Stuttgart, 879.

[3] Changes in Handwriting in Relation to Pathology, Il Pisane Gazetta Sicula, ransl. in Alienist and Neurologist, by J. Workman, M.D., October, 1883.

[4] Practitioner, London, 1873, Writers' Cramp, Its Pathology and Treatment.

[5] Mémoire sur quelques Observations de Physiologie Pathologique tendant à Démonstrer l'Existence d'un Principe coördinate de l'Ecriture et les rapports avec le Principe Coördination de la Parole, Mém. de Soc. Biol., 1856, p. 93.

[6] Rev. de Méd., 1883.

[7] Considérations sur l'Agraphie à propos d'une Obs. Nouvelle d'Agraphie, Rev. de Méd., 1884.

[8] On Aphasia, Brain, 1885.

It is not only that our present system of writing is too elaborate, our method of holding the pen to form the letters excessively taxing on the small and weaker muscles of the hand, but that the letters, because following each other as they do, necessitate a constant pendulum movement of the forearm from right to left. To write across the page, rather than from above downward, has been said to have originated first because it was easier to move the eyes in a horizontal rather than a vertical plane. Axenfeld [1] quotes the case of a young man who had read excessively, whose head would turn involuntarily to the right whenever he made the attempt to read, an instance which shows that reading from left to right is not wholly without its drawbacks. Is it not therefore greatly to be desired that a writing be devised in which the letters can be formed, as in phonography, unconnected, not requiring such precise and complicated motions to make them legible, and so formed that they can be written from above downward, or in any other direction, and with the left hand as well as the right.

Type-writers are an assistance. There is a gain in speed and relaxation of effort to make the letters clearly. They have not been in use as yet long enough to develop the objections which may exist against their use. I can see no reason why there should not be a type-writers' cramp after a while, as there occurs occasionally a telegraphers' and piano-players' cramp.

Many teachers in city schools now make their pupils practise writing with the left hand, as well as the right. Notwithstanding the apparent physiological basis for a right-handedness, I am convinced that in the matter of writing or any other skilled movement, it is more a matter of education than is generally believed. Many surgeons teach themselves, with little trouble, to be ambidextrous.

Pathology of Handwriting.—Bianchi in Italy and Erlenmeyer in Germany are almost the only ones who have entered into the study of the pathological signification of the handwriting. The subject has been considered in a disconnected way as a symptom of some diseases treated of in various text-books. However remotely alluded to, there has been a general acknowledgment of the value as a diagnostic sign of the handwriting of disease, and an expression of regret that so little attention has hitherto been paid to it.

The handwriting may become pathological through the alteration of any portion of the mechanism involved in its production. This paper includes only a discussion of the changes produced by abnormal conditions of the nervous apparatus.

Alterations in handwriting may be mechanical or psychical, they may be ataxic or tremulous, or a mingling of the two forms. The ataxic is physiological when seen in childhood, before the power of coördination of muscles for the complex act has been acquired. The tremulous is physiological in the handwriting of the aged, in which also is seen a tendency to retrograde into the childish handwriting.

The principal pathological handwritings are:

1. Handwriting resulting from trauma to the nerves.
2. Mirror-writing and agraphia, caused by injury to the cerebral centres.
3. Handwriting of general paralysis, caused by alteration of cerebral tissue.
4. Handwriting caused by sclerosis, cerebral and spinal.
5. Handwriting caused by functional disturbance, including paralysis agitans and writers' cramp.

[1] Traité des Névroses, p. 490. Paris, 1883.

1. *Handwriting caused by trauma to the nerves.*—Samples of handwriting can be shown occasioned by the interference with the conducting nerve-fibres. Erlenmeyer exhibits a very curious specimen in which there

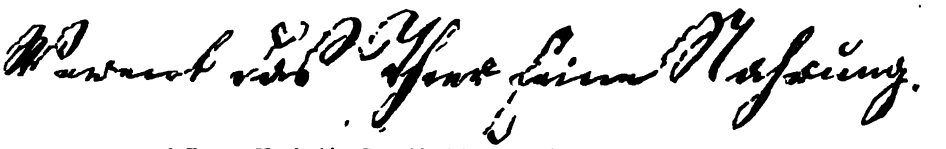


Fig. 1.—Handwriting Caused by Injury to Radial Nerve. (Erlenmeyer.)

was injury to the radial nerve. The tremulousness, or, rather, interruption to the lines, especially of the upstroke, is very peculiar (Fig. 1).

It is to be regretted that handwriting following injury to nerves has not been more studied, as much of interest from a physiological, as well as a pathological point of view might be attained.

2. The forms of handwriting caused by injury to the cerebral centres, especially after embolism of some of the cerebral arteries, are of two kinds, which have been described as *mirror-writing* and *agraphia*.

(1) *Mirror-writing.*—At present considerable discussion has been awakened with reference to mirror-writing. Ireland called especial attention to it by his paper on the "Brain" [1] in 1883, and by the republication of the same in his book, "The Blot on the Brain," [2] which he has just published.

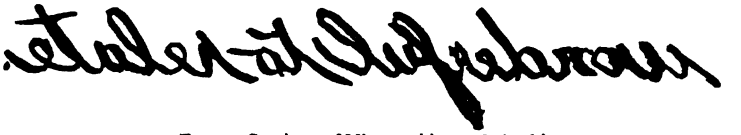


Fig. 2.—Specimen of Mirror-writing. (Ireland.)

Fig. 3.—Appearance of Fig. 2 when reflected in a mirror.

Mirror-writing, lithographic writing, reversed chirography, the Spiegelschrift [3] of the Germans, is writing which is written from right to left, instead of from left to right, and which when seen in the looking-glass looks like ordinary handwriting. Hughlings-Jackson [4] and Buchwald first discovered it. [5] The latter reported three hemiplegics who wrote with their left hand. He thought

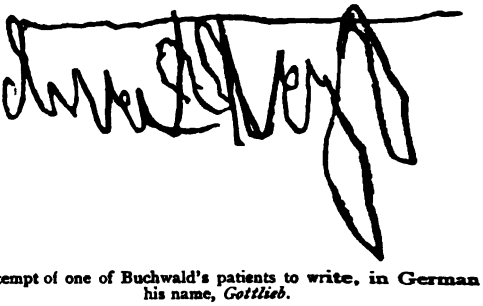


Fig. 4.—Attempt of one of Buchwald's patients to write, in German characters, his name, *Gottlieb*.

it had a pathological signification. Ireland also believes that it is due to the fact that the perceptive centre of the left side of the brain having become injured, the perceptive centre of the right side of the brain gives this idea of writing. Experiments made by himself and Peretti [6] upon school-children and weak-minded, make them announce

[1] Brain. 1883.
[2] Blot on the Brain. 1886.
[3] Spiegelschrift bei Hirnkranken, Berliner klinische Wochenschrift, January 7, 1878.
[4] Guy's Hospital Reports.
[5] Dr. A. B. Judson exhibited before the Surgical Section of the New York Academy of Medicine, November 14, 1876, a specimen of mirror-writing of a girl ten years of age who had had right hemiplegia, which he showed at the Neurological Society after the reading of this paper.
[6] Uber Spiegelschrift von Joseph Peretti, Berliner klinische Wochenschrift, 1882, p. 650.

the discovery that mirror-writing is more common among such. Possibly there may be cases where there is a true reversal of the impression of the handwriting due to the false perception of the psychical centres. To such cases as these Erlenmeyer proposes the name of Retrographic.

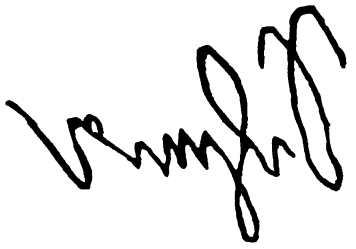


Fig. 5.—Attempt of a woman, with right hemiplegia, to write, in German characters, the word *schnee*. (Buchwald.)

As our handwriting is made to be written from left to *right*, and only in this direction, it would be impossible for one to write any other than the mirror-writing, if making the letters with either right or left hand in the reverse direction, that is, from right to left. Almost any person attempting this, combining the letters and writing without thought, will find that mirror-writing will be the result. I have had it tried again and again by way of experimentation. Since our writing is done with a centrifugal motion, one can see that in a certain number of

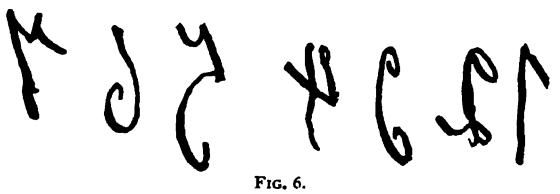


Fig. 6.

cases, even in most cases, the attempt to write with the left hand would be to write away from the body. The result would be a reversal of the writing as has already been shown. It is much easier to write in this manner, and the writing is more smoothly done for one unaccustomed to using the left hand. It may be suggested that figures, since they are disconnected, would form a good test as to whether the mirror-writing in right hemiplegics was a symptom of the disease. At first sight this would appear to be so. Buchwald in the case of one of his patients (Figs. 6 and 7) shows that some of the figures, especially 3, 5, and 7, were reversed, and that the hook of the number 5 was reversed even after the patient recovered. In experimenting to find out how one would write normally the figures from right to left with the left hand, and without thinking, I found that some of the figures would often be reversed. In a number of times in one person I found that 2 and 4 were very frequently reversed, as also 10.

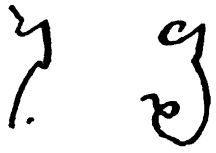


Fig. 7.

I have therefore arrived at the following conclusions with reference to mirror-writing: First, that mirror-writing may indicate a change in the perception of the nerve-centres of the brain, what Erlenberg would call Retrographia. The patient suffering from this would read the reversed handwriting certainly as easily, if not more so, than the normal. I have only found one mention in the cases reported as to this fact. Ireland says distinctly of an imbecile girl who wrote mirror-writing that she could *not* read it as well. This would be a means of diagnosis between a cerebral mirror-writing and mirror-writing from mechanical causes alone. Second, that from twenty-five careful examinations of the cases on record no indication has been found that the mirror-writing occurred from other cause than a mechanical one, that is, the person writing with the left hand could do so more easily in a centrifugal than a centripetal direction, the former association of ideas and muscular action making this so. Therefore, a person weakened by disease, weak-minded children, and left-handed, would write centrifugally, and if centrifugally, then from necessity the mirror-writing, as all persons would when not exercising care and forethought. The same holds true, though not to such a degree, of figures. The reason lies not in a pathological condition, but in a physiological, namely, that the muscular movements associated with writing are in a centrifugal direction, which makes it easier for one to write, sick or well, with the left hand, unless trained otherwise, in a centrifugal direction.

(2) *Agraphia.*—This subject has been much discussed of late with that of aphasia, first spoken of by Marce[1] in 1856. The name agraphia was suggested by Ogle,[2] who distinguished between the forms—the ataxic and the amnesic. There are a very few cases of agraphia uncomplicated with aphasia on record. It is only recently that the varieties of these two diseases have been analyzed, and that it has been shown that the conducting nerve-paths, sensorial and motor, the receiving centres, visual, auditory, and motor, may likewise come in for their share of trouble. Therefore in agraphia there may be word-blindness, word-deafness,[3] or a volitional motor disturbance resulting in inability to write. The investigators of the subject have also entered deeply into the discussion of the seat of the writing centre in the left hemisphere. The unilateral theory is not so fully endorsed as hitherto, and to the right brain is assigned important functioning power.[4] It is thought that the commissural fibres pass over to the main centres high up above the motor centre of speech in the medulla oblongata.

That these centres, like those of the special senses, with which they are intimately connected, will be more definitely settled as observations multiply with this purpose in mind, cannot be doubted. In consequence of the distribution of the complex act of writing among the different centres the disturbances may be varied; a person may be able to write perfectly and not to copy or write to dictation, or to copy, or *vice versa*. Very few cases of pure agraphia are on record. Almost always the speech centre is more or less involved. Pitres[5] published a case of a patient who, after apoplexy, suffered from agraphia. Speech, understanding of language, and writing were intact; while volitional writing, and writing to dictation were impossible, the faculty of copying was alone preserved. It was unilateral. The agraphia affected solely the right hand; he could write correctly with the left hand, and having so written he was able to copy it with the right hand. This is an uncomplicated case of pure agraphia. Charcot cites the case of a Russian officer who could speak fluently Russian, German, and French. He lost the power of language for a short time; could understand all these, but could only reply in Russian. At the time Charcot saw him he had recovered his power of speech, but was totally unable to write even in his native language. Generally in patients with aphasia and agraphia the power of speech returns first,[6] while the power of writing comes afterward and more gradually. Lichtheim calls attention to the fact that there may be instances of bilateral isolated agraphia, though the distinction has been overlooked heretofore. J. Hughlings-Jackson gives several cases of aphasia associated with agraphia. One of these illustrates well the amnesic agraphia. The case (Fig. 8) is that of a woman, who was able to talk, and only occasionally called things by their wrong name. A striking contrast, as the writer says, is seen between the ability of expression and the written words.

Another case (Fig. 9) shows the ataxic form though at the same time it is combined with the amnesic. The patient, a right hemiplegic, could only swear. Dr. Ham-

[1] Loc. cit.
[2] Ogle: St. George's Hosp. Reps.
[3] Charcot: Leçon sur l'Agraphie, quoted in Rev. de Médecine, 1883.
[4] Lichtheim: Brain, loc. cit.
[5] Loc. cit.
[6] Loss of Speech, its Association with Valvular Disease of the Heart and with Hemiplegia on the Right Side, London Hosp. Rep., vol. i., 1884.

mond[1] also gives a specimen of ataxic writing even more characteristic (Fig. 10). The attempt is that of a gentleman to write his name, who, after a stroke of apoplexy, was unable to say more than three words: "speak," "saw my leg off," "certainly."

FIG. 8.—Specimen of Amnesic Agraphia. Shows tendency to repetition of combination of letters seen in handwriting of insane. When occurring in speech, called "echo symptoms." (J. Hughlings-Jackson.)

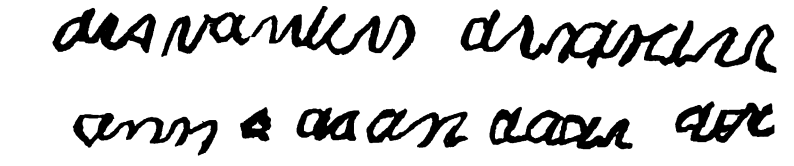


FIG. 9.—Specimen of Amnesic and Ataxic Agraphia. (J. Hughlings Jackson.)

FIG. 10.—Ataxic Agraphia.

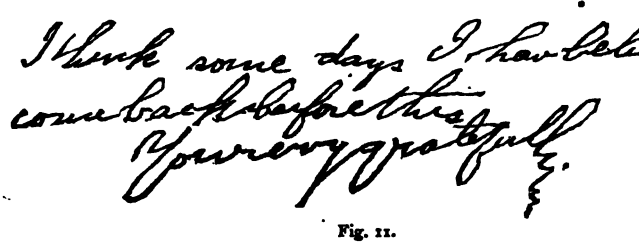
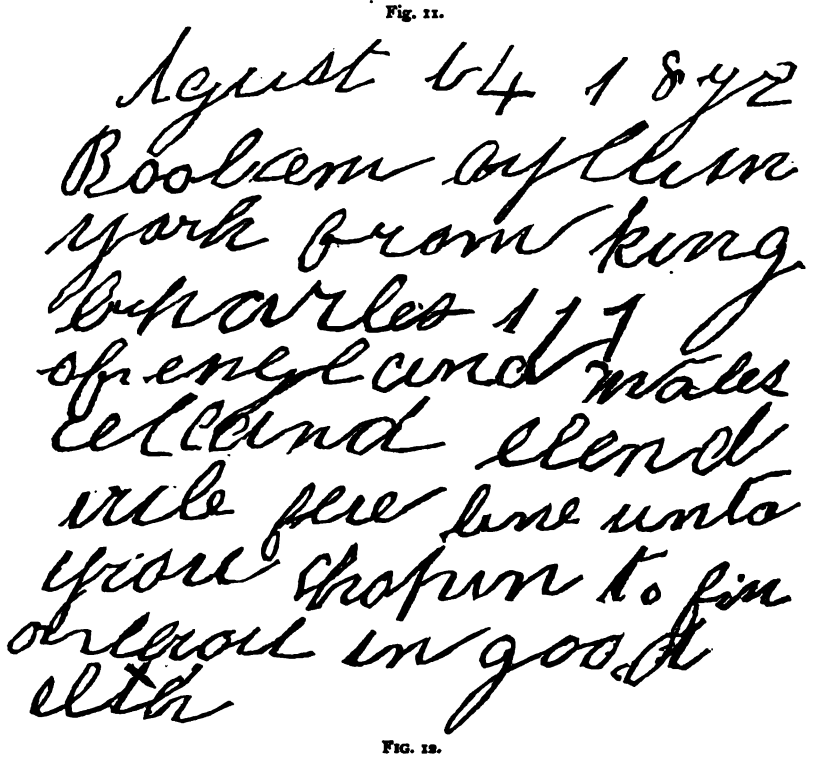


Fig. 11.



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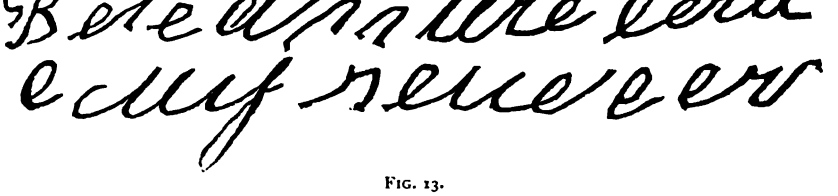

FIG. 13.

FIGS. 11, 12, and 13.—Handwriting of General Paralysis of the Insane. (Bucknill and Tuke.) FIG. 11.—Early stage. Letters well formed, tremulousness, dropping of final letters or irregularity of them, running letters together, and incoherence of composition.

FIG. 12.—(August 14, 18—, Boothem Asylum, York, from King Charles III. of England, Wales, Scotland, Ireland, I write a few lines unto you, hoping to find them in good health.) Specimen shows advanced stage, and the exaltation of ideas.

FIG. 13.—Attempt of patient in very advanced stage of general paralysis to copy the Psalm, "Bless the Lord, O my soul."

[1] Hammond on Nervous Diseases.

The diagnostic value of the handwriting in agraphia, is in the evidence it gives of the extent of damage done in these cases of hemiplegia to the brain tissue, and also an indication of the location of the trouble, as well as the common service in all localization, the giving hints to clear up the dark, mysterious problems which surround the physiological action of the brain.

3. *Handwriting of the insane.*—As far as the mechanical execution goes in the early stages of insanity there is little which denotes the incursion of the disease, but when patients begin to omit words and to spell badly in their letters, it should excite suspicion in regard to their sanity, and in many instances it is a sign of the beginning of general paralysis.[1] In examining specimens of the handwriting of those afflicted with this disease, its progress is shown by well-marked characteristics. It is the reverse of the progression made in childhood. The scattered pot-hooks and ataxic marks of a child first learning to write are seen in the latest stage, before that the coarse, irregular letters are combined to make words and intelligible sentences, which straggle in uneven lines, the forming of the line as seen in childish writing spoken of by Erlenberg. The first mechanical sign is a diminution of the handwriting, a running of the words together, and either not finishing the final letter or terminating it in an irregular line, or dropping it entirely. A shakiness of the letters is seen throughout. In this early stage frequent under-scoring occurs, and an irregular and plentiful besprinkling of capitals. Bucknill and Tuke remark that patients may recover their handwriting even after the worst stage.

In acute mania there is ample indication in incoherence, but the letters are not forgotten. A consideration of the vagaries of composition would be foreign to this paper. They take curious and diverse forms, a repetition of the letters often occur, as shown in the sample of the writing of the woman afflicted with agraphia (Fig. 8). Sometimes the letters are microscopic in their fineness, and figures and letters intermingle. Sometimes the lines are written across one another again and again, until there appears a criss-cross of unintelligible lines.

4. *Handwriting of cerebro-spinal sclerosis and locomotor ataxia.*—The handwriting of patients suffering from cerebro-spinal sclerosis is characterized by its tremulousness.[2] Hammond gives in his work on nervous diseases an interesting specimen, which exhibits a tremulousness in the lines, especially in the up-hand strokes, which contrasts in an interesting manner with the writing of paralysis agitans. Onimus[3] first called the attention of the profession to the

[1] Psycholog. Med., Bucknill and Tuke, p. 308, 1879.

[2] Erb: Ziemssen's Encyc., Dis. of Nerv. Syst., vol. xi., p. 355.

[3] Gazette Médicale de Paris, February 21, 1874.

peculiarities of the writing of those afflicted with locomotor ataxia involving the upper extremities. Hammond has confirmed his conclusions.

FIG. 14.—Handwriting of Cerebro-spinal Sclerosis. (Hammond.)

The phenomena exhibited in the handwriting are similar to those seen in the lower extremities. The changes are shown early when writing with the eyes closed, especially in round letters, c, a, and o, as well as in l and e. They are formed by straight lines, more or less ex-

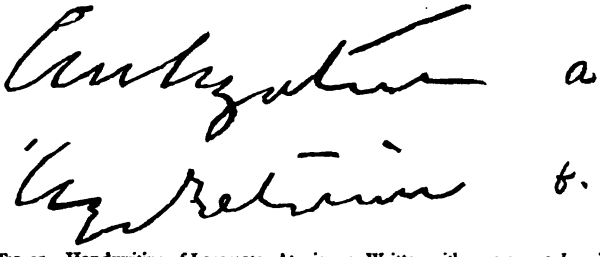

FIG. 15.—Handwriting of Locomotor Ataxia. *a*, Written with eyes open; *b*, written with eyes closed. (Hammond.)

tended, instead of curves. There no longer exists the synergy of muscles. When the disease is further advanced, the writing is ataxic, when the eyes are open, though not so much so as when they are closed; the letters are made with a jerk, and the hand has difficulty in limiting the trace. In p, for example, the line never ends

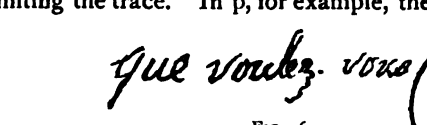

FIG. 16.

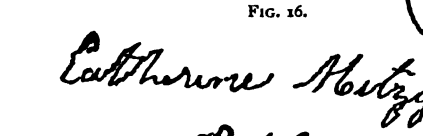

FIG. 17.

FIGS. 16 and 17.—Paralysis Agitans. (Charcot.)

with a neat termination, and there is an impulse to continue; the pen catches and sputters, and the patient is

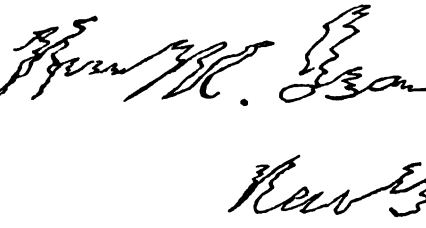

FIG. 18.—Paralysis Agitans, Advanced Stage. (Kindly furnished by Dr. E. C. Seguin.)

often obliged to use a pencil. Later, when the ataxy of the arm is pronounced, the attempt to write results only

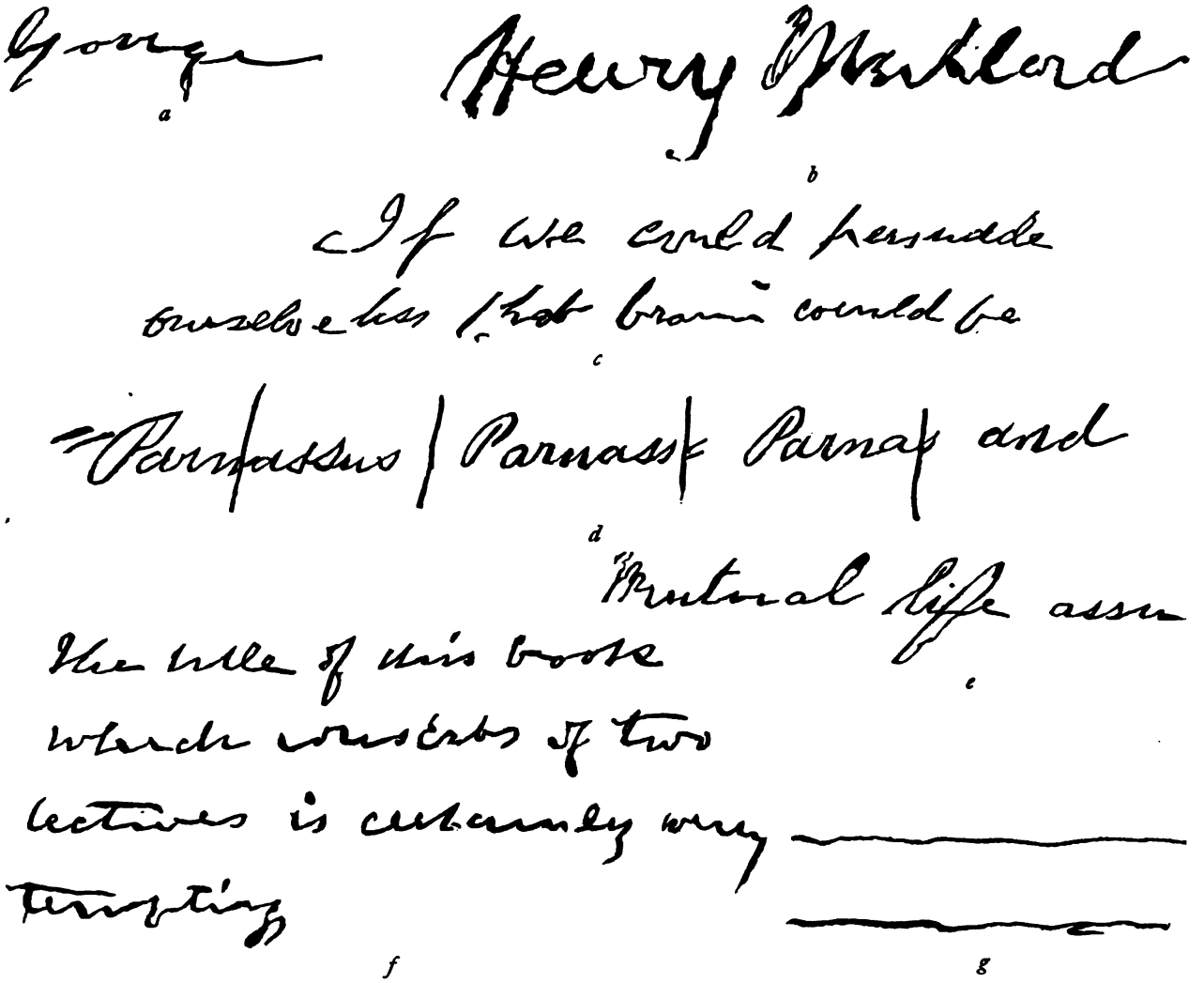

FIG. 19.—Specimens of Writers' Cramp. *a*, Patient had great difficulty and annoyance in trying to write; utterly unable to continue because of spasm of the whole arm; *b*, thumb and first two fingers refused to hold pen; letters shaky and tremulous; *c*, shows increasing indistinctness, with at last inability to write; *d*, the straight lines show where the writing was interrupted by a vibratory movement of the ends of the fingers when holding the pen; disease was of mental origin; also a neuralgic condition of the musculo-spiral nerve and its branches was present: *e*, patient lost power of writing through excessive knitting; letters tremulous, and after a time inability to continue; *f*, disease of twelve years' standing; patient an artist who can paint well; *g*, shows his attempt to draw a straight line. (Poore.)

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in unformed traces without order; there is inability to write a single word. It shows the same march of the disease as is seen in the lower extremities.

5. *Functional disturbances of the handwriting.*—Under this head will be included the writing of paralysis agitans and writer's cramp, as might also be that of chorea and hysteria. In the two latter there is nothing of especial diagnostic value. The writing of paralysis agitans shows the tremor in the early stages. Although the handwriting looks normal to the naked eye, a glass will reveal the peculiar character given it by the trembling.[1] The long letters show it more than the others. The tremulousness of the lines becomes more pronounced as the disease advances, and there is a diminution in the size of the letters.

In *writer's cramp*[2] the writing shows many forms of disturbance, and were there no history and the story of the disease could only be gathered from the handwriting, it would be difficult to say whether we were dealing with some of the various forms of tremor, paralysis agitans, progressive muscular atrophy, locomotor ataxia, arthritis deformans hemiplegia, or disease of the motor nerves. A study of the handwriting will, however, reveal the nature of the disturbance, whether with the spastic, tremulous, or paralytic forms, as Benedict names them. Ross[3] thus describes the difficulties encountered in each of these: "In spastic form of the disease tonic or clonic spasms of one or several muscles occur. The spasms are limited to particular fingers, causing an irregular stroke in the writing. The pen must be held in a new and more or less grotesque manner. After a time the spasms become stronger, and are generally tonic in character, affecting usually the thumb and first finger. The thumb and finger may be suddenly extended, causing the pen to drop, or there is a spasmodic action of the opponens pollicis with abduction and flexion of the index finger, so that the pen is rapidly moved away from the paper. At other times a spasmodic flexion of the first three fingers, so that they are pressed tightly against the pen, which cannot then be moved further onward, or there may be movements of pronation and supination in the forearm so that the pen is raised from the paper and moved backward and forward in the most irregular manner.

"In the tremulous form of the disease the hand and forearm, or even the whole arm, become the subjects of well-marked tremors on any attempt at writing being made, so that the pen only makes undulating or angular strokes, and the writing becomes completely illegible. The strokes are coarse and imperfect and unequal, and numerous irregularities and false strokes are to be observed, and in the highest degrees of the affection the writing becomes a mass of undulating and zigzag strokes wholly illegible.

"The paralytic form offers a great contrast to the spastic and tremulous forms. It is characterized by great fatigue and weakness when the attempt is made to write, which vanishes when the pen is laid aside, to reappear as soon as it is taken up."

RECAPITULATION.—To recapitulate, then:

I. Mirror-writing may be, but is probably very rarely, indicative of nervous disease.

II. Of other pathological chirography the two great forms are the ataxic and tremulous. In many diseases these two are intermixed.

1. The *ataxic writing* is: (*a*) Physiological in childhood and with the untutored; (*b*) it is characteristic of alcoholism, cerebral, cerebellar, and spinal affections in which there is sclerosis or other alteration, and the paralytic and other diseases, with loss of voluntary power over the muscles, or of weakness and fatigue of the muscles; (*c*) it is characterized by large letters, often excessive in size, illegible, and extremely unequal and uneven.

2. *Tremulous writing:* (*a*) Physiological in old age; (*b*) caused by trembling of the hand and arm from cold, poisonous substances, as nicotin, tea and coffee, morphine, or alcohol; diffuse multiple sclerosis, rhythmical chorea, paralysis agitans; (*c*) its character varies from an almost imperceptible to a decided waviness of the line, occurring in only a few letters, or in all on up-strokes or down-strokes. It is legible, and the letters are of the same size, and usually small and well formed.

[1] Charcot: Maladie des système nerveux, i., p. 166.
[2] G. V. Poore, M.D.: Writer's Cramp. Its Pathology and Treatment. The Practitioner, London, 1873.
[3] Ross: Diseases of the Nervous System, vol. i., p. 464.

RHEUMATISM IN EARLY LIFE.[1]

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THE purpose of this paper is not to advance new theories concerning the rheumatism of childhood. It has seemed, however, to the writer that this subject has not received sufficient attention, especially in relation to its great importance. While some old and familiar diseases are being diligently restudied in the light of bacteria and micrococci, it may be profitable to call attention to a well-known affection in which no bacillus has been found, but that, nevertheless, is continually and hopelessly crippling children for life in such an insidious form as to be constantly overlooked. The facts, then, that are not always appreciated, may be emphasized by a clinical study of seventy-six cases that have come under my observation. And first it may be well to glance at some of the opinions of different writers concerning the frequency, or even the existence, of rheumatism in early life. While most of the older authors were skeptical as to the occurrence of the affection before puberty, the more recent writers generally acknowledge its existence at an earlier period, but do not insist with sufficient emphasis upon its frequency. In 1875, Jacobi published a paper contending that acute rheumatism in infancy and childhood was frequent and insidious. Meigs and Pepper state that the importance of the subject is not usually appreciated, and that rheumatism in children deserves careful attention not only on account of its frequency and peculiarities, but also on account of its marked tendency to cardiac complications, and of its recently established relations to chorea. According to Senator, youth and early manhood are especially liable to the disease, the favorite period lying between puberty and the age of thirty, that from the thirtieth to the fiftieth year coming next in order; children under four are scarcely ever attacked. Longstreth considers that from puberty to the age of thirty or thirty-five years' acute rheumatism is a very common disease, but that in early life rheumatism in any form is a rare affection. J. Lewis Smith says that rheumatism was formerly supposed to be rare in children, but more accurate observations show that it is scarcely less common during childhood than in adult life; it is frequently overlooked, especially under the age of six or eight years. D'Espine and Picot state that rheumatism is an affection less common among children than adults, and is rarely seen under five years. Descroizilles considers that while rheumatismal affections are not so frequent in children as in adults, yet they are less exceptional at an early age than was the opinion of the older pathologists. While not a few cases are found in children's hospitals, one would recognize them still more frequently if many of the little invalids were not treated at home by reason of the relative benignity of the symptoms which they present. Among 4,908 cases of acute rheumatism admitted during fifteen years to St. Bartholomew's Hospital, London, only 1.79 per cent. were under ten years, and 8.1 per cent. were between ten and fifteen years.

Henoch finds the majority of cases of acute rheumatism in childhood occur between the ages of nine and

[1] Read before the New York Academy of Medicine, February 18, 1886.]

thirteen years, while it is much rarer between the ages of five to eight years. Howard states that acute articular rheumatism is, *par excellence*, an affliction of early adult life, although no age is entirely exempt. Most authors, then, while of the opinion that youth and early adult life are the periods most frequently attacked, are not inclined to consider the affection as comparatively very frequent during childhood, although not denying its possibility. Yet I think that any child's clinic, if carefully studied, will produce relatively as many cases of rheumatism as are found in adult classes, but of a different type.

Among 76 cases that have come under my observation, the following are the ages: six months, 1; eleven months, 1; twenty months, 1; three years, 1; four years, 2; five years, 4; six years, 6; seven years, 3; eight years, 11; nine years, 9; ten years, 5; eleven years, 8; twelve years, 7; thirteen years, 9; fourteen years, 4; fifteen years, 2; seventeen years, 2.

During infancy the affection is not very common. Henoch treated an infant of ten months with well-marked rheumatism, complicated with broncho-pneumonia and pleurisy. Senator states that Widerhofer observed the disease in a baby twenty-three days old, and Stäger met with it in an infant four weeks old. My youngest case occurred in a baby of six months, whose father was rheumatic. The backs of both hands were swollen and inflamed for several days, accompanied by a general urticaria. In another case, a baby of eleven months had always been healthy until the right elbow-joint became swollen and inflamed; in a day or so the right knee was involved, and next the right side of the neck became enlarged and painful. The appearance of the joints was exactly like that observed in the adult. There was no cardiac complication. The family lived in a canal-boat, and the father had been subject to rheumatism. In another instance an infant of twenty months was taken with vomiting and fever on Saturday evening. The fever continued on Sunday, and she seemed disinclined to move. Temperature, 101¼°. On Monday morning the big toe and ankle of the right side began to swell and grow painful, followed in a few hours by the corresponding parts of the other limb. The affected joints were very slightly reddened. Recovery took place in about a week. The father had been subject to rheumatism for eighteen years.

The following typical case, taken from my note-book, brings out the points to be noted in this paper: Hester I.——, aged twelve years. Her grandfather has had rheumatism, and the father is subject to pains in his ankles. The only diseases the girl has had are measles and varicella. Three years ago she had an attack of rheumatism, involving first the knees, then the ankles, shoulders, and hands. She was confined to bed for two weeks, and during this time was much frightened by a Board-of-Health physician calling to vaccinate, when her mother was out. Upon recovery from the rheumatism she was seized with a general chorea. Two weeks ago she had a second attack of rheumatism, involving only the ankles, attended by little pain and very slight swelling, but followed likewise by a general chorea. This time there was no history of fright or any nervous shock. The child has a mitral regurgitant murmur and is hydræmic. Her mother says she is subject to frequent attacks of painful and swelled tonsils.

An analysis of these various symptoms, shown in the comparative study of seventy-six histories, may prove of interest. And first, for heredity as a causative factor. While the exact nature and conditions of hereditary influences are not known, it seems to me an undoubted fact that some state of the system is transmitted from parents to children that will favor the development of rheumatism upon the presence of an exciting cause.

It has been argued that rheumatism is not hereditary, because, if so, it would appear earlier in life. The direct physiological heredity that manifests itself so early in life in the congenital variety of syphilis is different from the heredity that tends to develop rheumatism. In one case the actual disease itself has been transmitted; in the other, only the tendency to disease.

No matter how favorable its environment, the infant who has syphilis congenitally will develop the lesions of the disease in time; the child of rheumatic parents, on slight exposure, may develop rheumatism from a state of the system favorable to the complaint, but may escape if the exciting cause be absent.

A careful study of statistics in reference to the frequency and descent of rheumatism in families should enable one to reach correct conclusions in this matter. It seems to me that what Longstreth calls statistical heredity is just as valuable in showing tendencies to disease as physiological heredity is in predicting future constitutional lesions. A pretty certain proof of hereditary tendencies in rheumatism is seen in the trouble frequently developing as early as it does, before the hardships and exposures of adult life. Some exciting cause, as slight cold, brings on the rheumatism after the more careful nursing of infancy and very early childhood is abandoned. The practical deduction from such a consideration is, that when parents are rheumatic extra care should be taken in the raising of children to prevent an onset of the affection.

In looking over my note-book I find I could get distinct histories of rheumatism in the family in the following instances: Fourteen children had rheumatic fathers, and 13 others had rheumatic mothers; in 6 cases both father and mother had suffered from rheumatism; in 3 children both grandfather and father had suffered; in 1 case the grandfather alone; in 2 cases brothers, and in another case a sister, gave accounts of rheumatic attacks. Many more cases, not enumerated, gave strongly presumptive evidence of rheumatism in the family, but were not counted because of some uncertainty.

Thus, some parents had valvular disease, but denied ever having had rheumatism; in many instances a friend of the family brought the child, and could not tell whether its parents were rheumatic or not. In the great majority of cases in which I could get a full and intelligent history, one or both parents had suffered from rheumatism.

In early life rheumatism appears to attack girls more frequently than boys. I do not know of an explanation for this peculiar fact, as one would suppose that boys, being more exposed, would suffer more frequently. Among 69 cases tabulated by Goodhart, 42 were in girls and 27 in boys. Out of my 76 cases, 50 were girls and 26 boys. The peculiar and evanescent nature of the lesions, together with their shifting character, make it difficult to get an accurate history of the parts of the body exclusively affected in children.

In the majority of my cases some parts of the lower extremities alone were affected, and most of the instances in which the upper part of the body was attacked, were secondary. In 43 cases the lower extremities alone were invaded; in 23, some part of the upper as well as the lower, and in 3, some parts of the upper extremities alone were attacked. When the lower extremity was involved, the knees were affected oftenest, as noted in the histories of 40 cases; the calves of the leg are mentioned in 20 cases, the ankles in 17 cases, and the thighs in 18 cases. In the upper extremities, the elbows are noted as being affected in 10 cases, the shoulders in 7, the neck in 4, the wrists in 4, and the hands, principally on the backs, in 8 cases. Some children complained of general soreness and pains all over the body, without being able to locate them in any one particular spot. Many had pains of a more or less severe, irregular nature in various parts of the back and chest, and I have come to regard such manifestations as very suggestive of rheumatism, irrespective of pleurisy and cardiac inflammation. In 2 cases the plantar surface of the feet bore the brunt of the disease. The manifestations of rheumatism, as studied in these children, were very light as re-

gards the joints and limbs, with some exceptions. Swelling of the parts affected was always very slight, and in a majority of the cases entirely absent; when present, it would quickly disappear. Pain was likewise not very severe, and was noticed principally on exertion. In children old enough to give an intelligent description, there was frequently a complaint of stiffness and soreness upon exercising, rather than actual pain. With the exception of perhaps ten or fifteen cases who were confined to bed, the children were allowed to go about as usual, although constantly complaining. In most of the cases there was no redness or other particular sign of inflammation at the part affected; there was likewise, as a rule, little or no rise of temperature when the cases were brought to my notice. Fasciæ and muscles about joints were apparently largely affected. Many of the histories showed more than one attack of rheumatism. The tendency to a repetition of the trouble was shown as follows: In 22 cases there had been two attacks; in 4 cases, three attacks; in 1 case, four attacks; in 2 cases, five, and in another, 6 distinct attacks. It happened in many cases that it was impossible to get an accurate history of the number of seizures, as the parents would say that for one or two years the child had complained of pains every few weeks. Some of the children, indeed, seemed so saturated with rheumatism as to be complaining more or less all the time. A very general feature in these cases was the presence of marked hydræmia. Nearly all the children that I have treated for rheumatism have been in this condition, and it forms an important factor both in diagnosis and treatment.

The absorbing interest in connection with the study of rheumatism in early life relates to the heart. According to Senator, the younger the patient the greater the risk of the heart becoming affected, as this organ is implicated in fully one-third of all the cases occurring before puberty. Thus Vernay found that of 22 cases between the ages of fourteen and twenty, only 1 escaped endocarditis. D'Espine and Picot found in 47 cases of rheumatism in children only 10 cases in which the bruit of the heart was perfectly normal, and state that Vohsen found cardiac complications in 9 out of 20 cases. These authors further observe, that while it is not rare to see in children an endocarditis or a pericarditis with a very light affection of the joints, such inflammation may likewise accompany a simple torticollis. Descroizilles states that at an early age the central organs of the circulation have a particular aptitude for attack. He likewise states that Vogel, Steiner, and Roger agree that a considerable number of the lesions of the endocardium and pericardium have no other origin than rheumatism, affecting first the joints or muscles. Out of 76 cases that I have examined under seventeen years of age, 26 have had organic valvular disease of the heart. Of the 26 cases, 18 had mitral regurgitant murmurs; 2 had double mitral combined with double aortic murmurs; 2 had mitral regurgitation with double aortic murmurs; 1 had mitral regurgitation and obstruction; 1 had mitral regurgitation with an aortic direct murmur; 1 had a mitral obstructive murmur, and 1 had endocarditis, myocarditis, and pericarditis. Thus one-third of my cases gave evidences of organic heart disease when I saw them—the same proportion that is quoted above from Senator. But this number does not, I think, represent all the cases in which the heart was affected by endocarditis in these children. The heart is probably more often slightly attacked by endocarditis without leaving a permanent lesion than is supposed in the mild attacks of rheumatism from which children suffer. Palpitations and wandering pains over the cardiac region are very common in these rheumatic attacks, and doubtless sometimes represent an inflammation in which there has not been sufficient exudation to produce a bruit. I have likewise seen cases in which a murmur produced by an acute endocarditis has disappeared some time after the inflammation has abated. Thus, a boy of eight years was brought to me with rheumatic pain and swelling in his left elbow; the cardiac sounds were normal. The trouble left the joint, and in a week or so he began to complain of pain over the heart. An examination revealed a loud systolic murmur, heard plainest at the apex, and a diagnosis of acute endocarditis was made. His mother nursed him carefully, and now, about a year after the attack, the bruit has entirely disappeared, and the boy enjoys good health.

As far as I have noticed, acute endocarditis in children often appears to cause less local and constitutional disturbances than in adults, and thus is more liable to be overlooked. It is surprising how obscure the symptoms of acute heart trouble may be in children. Bouillaud states that in early life the heart comports itself like a joint with reference to the rheumatic poison. This simile is exemplified by the fact that in some attacks of rheumatism the cardiac inflammation may precede by several days the articular.

A girl of twelve years that I examined began her illness by some pains in the heart, shortness of breath, and a feeling of prostration. When this had continued a week she was seized with pains and slight swelling in the knees, ankles, and elbows, affected in the order named, the whole trouble lasting three weeks. She had a distinct mitral obstructive murmur, with accentuation of the pulmonic second sound.

An endocarditis is not infrequently the only lesion manifested in the rheumatism of children. A number of cases coming under my observation have exemplified this fact. The following history is a fair example:

A girl, fourteen years of age, whose mother is rheumatic, has never had any illness except measles and pertussis. She came to me complaining of pains and palpitations of the heart, loss of appetite, and failure of strength. Occasionally a little blood was coughed up. On examination mitral regurgitation was heard, without lesions of the lungs. There was no affection of the joints or muscles at any time.

In other cases the heart will be attacked some time after rheumatism of the joints, and at the time constitute the only manifestation of a rheumatic attack. Thus, I have recently examined a boy who suffered three months ago from an attack of rheumatism in the knees and calves of the legs, which were sufficiently painful and swelled to confine him to bed. He recovered without any trouble in the chest. Several weeks ago, after exposure to cold, he was seized with some distress about the heart, without pain in any other part of the body. As a result, there is now sufficient mitral incompetency to cause dyspnœa upon much exertion.

In most of the histories of valvular disease, as nearly as I could get at the facts, the cardiac affection seemed to come on after several attacks of rheumatism. It appeared as if the heart finally succumbed, unable to resist repeated attacks, just as one joint after another will yield to the disease. A girl, six years of age, first had rheumatism in the thighs, lasting a week. Some months afterward she had an attack involving first the feet and next the hands. After another interval of months she had a rheumatic seizure in the knees, followed by slight pain and constriction in the chest. When I examined the heart there was some enlargement and a mitral regurgitant murmur.

In another case a girl, eleven years of age, who had previously been healthy, began to complain at intervals of slight pain and stiffness in the knees, calves, and ankles, principally on exertion. No particular attention was paid to the affection, and she was sent to school as usual. After about eight months, during one of these attacks, she was suddenly seized with distress in the chest, followed in a few days by intense dyspnœa. Physical examination showed pericarditis. Death took place in a month from heart failure and œdema of the lungs. At the autopsy I found extensive endocarditis, involving

both the aortic and mitral valves, together with myocarditis and pericarditis. The mitral valves were retracted and partially bound down, and the aortic valves were covered with fine fibrinous vegetations. A general myocarditis was shown by a fatty condition of the heart-muscle, and the pericardium was adherent to about half its extent; where free, both surfaces were covered by thick layers of fibrin. I presented the specimens before the Pathological Society as exhibiting a case in which all the structures of the heart, with its envelopes, were completely destroyed after repeated insidious attacks of rheumatism that were so mild as to pass for growing pains. The lesson to be learned from these cases is that an early diagnosis should be made, and immediate, vigorous measures taken to combat the first manifestations of rheumatism in children, fearful that, although the heart may escape the first attacks of these mild pains, it may suddenly and unexpectedly become affected by an equally light manifestation of the disease. Goodhart states that it is impossible to say what proportion of heart cases occur as the direct outcome of one attack of rheumatism, or how far the damage results from some persistent state which slowly and surely cripples the valves. Congenital heart disease is rare in children, and naturally involves the right side, which is functionally most active during fetal life. Jacobi has called attention to the fact that in children simple hæmic murmurs are very rare. It is difficult to find out comparatively how much oftener cardiac complications of rheumatism are seen in children than adults. Different authorities do not agree as to the proportion of all cases of rheumatism in which the heart is affected. I quote the following from Howard:

"The gross proportion of heart disease of recent origin in acute and subacute rheumatism was, in Fuller's cases, 34.3 per cent.; in Peacock's, 32.7 per cent.; in Sibson's, 52.3 per cent.; in 3,552 St. Bartholomew's Hospital cases, analyzed by Southey, 29.8 per cent.; in Bouillaud's cases, quoted by Fuller, 5.7 per cent.; in Lebert's, 23.6 per cent.; in Vogel's, 50 per cent.; in Wunderlich's, 26.3 per cent." Of Fuller's cases 58 per cent., and of Sibson's 62 per cent., were under twenty-one.

With reference to the connection between rheumatism and chorea in children I presented some statistics in a paper read before the Neurological Society in 1883. In the histories of 38 cases of chorea given at that time 22 were preceded or accompanied by rheumatism. While it is difficult to determine exactly the relative influences these affections have upon one another, the study of a larger number of cases since that time has confirmed my belief in the close relation between them. It seems probable that the same morbid condition predisposes to both rheumatism and chorea in children, and that they may be different manifestations of the same affection.

Descroizilles says that the lesions engendered by rheumatism frequently propagate themselves to the heart, or better, transform themselves, and choreic convulsions replace the first phenomena. Soltmann, in his article on chorea, quotes Roger, who thinks that chorea and rheumatic affections of the joints, and heart affections, are members of one and the same pathological condition. Therefore, he makes a division into chorea rheumatica, chorea cardiaca, and chorea rheumatica cardiaca, and he is unable to state which process makes the commencement. Often the chorea is primary and the heart affection secondary, or *vice versa*, or the heart affection and the chorea appear at the same time. Again, the chorea may appear first, then the rheumatism, and lastly the heart affection; but generally the rheumatism is first, next the chorea, and the heart affection afterward. In thirty-five histories of rheumatism I found a connection with chorea, generally the chorea following some time after a rheumatic attack, but occasionally *vice versa*. Certainly rheumatic children are extremely liable to develop chorea. I could give many histories exemplifying this fact. In one case I treated a boy, eight years of age, who had six attacks of rheumatism, followed each time by chorea after a short period. There are seven cases in my note-book in which rheumatism has occurred after one or more attacks of chorea. Thus, in a boy, seven years of age, whose father was rheumatic, twitching began on the left side and soon became general. This was followed by rheumatism in the arms and legs. During the next two years he had three more attacks of chorea, but no return of the rheumatism. In another case a girl, nine years of age, with no family rheumatic history, had two severe attacks of general chorea, the latter followed by rheumatism in both thighs, the right shoulder, and neck. I have four instances of cardiac trouble following chorea without any previous rheumatic history. A girl, seven years of age, with no account of any rheumatism in the family, presented herself with chorea of the right side. The heart-sounds were normal, and she gave no history of rheumatism or growing pains. In a few days she appeared again with a loud, blowing murmur at the apex.

Another girl, eight years of age, whose mother had rheumatism, suffered from two attacks of chorea, the second followed by a mitral regurgitant murmur. Finally, I saw a boy, with Dr. Katzenbach, seventeen years of age, who had double aortic and double mitral murmurs, with great hypertrophy, from which he died. There was no rheumatism in the family, but he had several severe attacks of chorea. His mother told me his breathing never seemed right since he began to have the twitching. The nearest approach to rheumatism he had, was some lumbar pain about a month before he died. Parents with rheumatic tendencies may have children who develop chorea instead of rheumatism. As an example, a girl, twelve years of age, whose father had such severe attacks of rheumatism as to cause delirium, suffered a number of times from general chorea. She never had rheumatism nor growing pains. In many of my histories the chorea did not appear until after several attacks of rheumatism. Thus, a girl, eleven years of age, after two attacks of rheumatism, developed general chorea. She had a mitral regurgitant murmur which I was unable to trace as to the time of its inception. There are so many ways in which rheumatism, chorea, and cardiac trouble seem related, that the opinion of Roger as to their essential identity appears probable.

Rheumatism in children seems to have a tendency to attack mucous as well as serous surfaces, especially the throat. It may seem somewhat forced to seek any relation between throat, and especially tonsillar, affections and rheumatism, yet they occur frequently enough to suggest the possibility of some connection besides a mere coincidence. Bruce, in describing the invasion of rheumatism, says that sore throat, which consists in pharyngeal catarrh, follicular tonsillitis, or even acute suppurative inflammation, is remarkably characteristic. Goodhart says there is a growing frequency of assertion that tonsillitis is a rheumatic ailment, generally preceding the attack. Some other writers speak of the same connection.[1] I have fifteen histories in which tonsillitis

[1] "Dr. Fowler, his attention having been called to it by Dr. Garrod, has lately kept notes of all cases of acute and subacute rheumatism, and finds that in a very large proportion the attack has been preceded, at an interval varying from nearly a month to a few days, by some affection of the throat. It may be a simple catarrh, but in many cases it takes the form of acute inflammation of the tonsils. The percentage of cases was about eighty. In some cases the throat and joints are affected simultaneously; and he has met with cases of relapse from acute rheumatism where the primary attack and the relapse have both been preceded by throat symptoms. The sequence of events is of too frequent occurrence to be explained on the hypothesis of a merely casual connection; that is, that a person having, through a chill, or some other cause, had a 'sore throat,' further exposure has brought on an attack of rheumatic fever. He believes that not infrequently amygdalitis is an early manifestation of the rheumatic diathesis, and that by so regarding it we may prevent the further development of that tendency. Bearing in mind the extreme prevalence of valvular affections of the heart, which in the young may generally be traced to fibrinous vegetations having formed on the valves during the attacks of rheumatism, any means which enable us to foresee, and possibly ward off, a disease causing agonizing pain, and often leaving behind it an irreparably damaged heart, are of great value. Early treatment is very important in acute rheumatism. The cardiac complications usually appear early in the case, and when once the patient has been got to bed the danger from that source is much lessened. So firmly is the author convinced of the truth of these facts, that he thinks seriously of a seemingly trivial throat affection, and in all such cases advises his patients to be on their guard against the slightest exposure to cold, and

was present before, at the time, or immediately after the attack of rheumatism. Thus a boy, nine years of age, came to my office with a severe follicular tonsillitis. He was sent home and went to bed. In three days I was sent for and found acute rheumatism beginning in the knees and back of the neck. Again, a girl, fourteen years of age, with mitral disease, whom I had repeatedly treated, had another attack of rheumatism, involving the wrists and shoulders. She was put to bed in a warm room, and, in several days, as the pain was leaving the parts affected, she was seized with an attack of acute tonsillitis. In another case a girl, thirteen years of age, was treated in summer for mild rheumatic pains in the elbows and chest-wall. The affection yielded to salicylate of sodium, but just as recovery was taking place she returned with an attack of acute tonsillitis. In histories of this kind it cannot, of course, be proven that there is anything beyond a casual connection between the two affections; still, the coincidence is such as to warrant further observation. In acute tonsillitis there is very constantly present general soreness and pains through the limbs, with an elevated temperature; hence the idea has been advanced that it is a constitutional disease. If so, it must be allied to rheumatic fever. It is well known that suppurative tonsillitis can sometimes be aborted by large doses of the salicylate of sodium given at the beginning. Dr. Gilbert, in the Louisville *Medical News*, reports a case in which the whole mucous membrane lining the mouth and covering the tongue was attacked with a follicular inflammation during a rheumatic seizure.

Rheumatism in children is occasionally accompanied or complicated by various affections. I could only detect marked evidences of pleurisy in about half a dozen of my cases. In quite a number of instances there were attacks of acute urticaria. Stiffness and contracture of the muscles of the neck are sometimes seen. Persistent indigestion and pains shortly after eating were often present in my cases, together with more or less headache. Rarely the inflammatory action in the joints and fasciæ will spread to the surrounding areolar tissue, and an extensive cellulitis be the result. In a few cases, in rheumatic children, anterior polio-myelitis was accompanied or shortly followed by rheumatism. As far as I have seen it, the rheumatism complicating scarlatina does not differ in its action from the ordinary attacks. It is often attended by endocarditis, but it is said that the murmur developed by the disease often disappears. In one case that I was able to watch, a marked bruit disappeared some time after the attack. Henoch regards the joint affections in scarlatina as due to synovitis rather than rheumatism. Other authorities, on the contrary, consider that the complications of scarlatina involving serous membranes, and even the kidneys, are essentially rheumatic. In one of my cases, a boy, nine years of age, had a marked attack of peliosis rheumatica, involving the legs, while suffering from mild rheumatic pains. This affection is exceedingly rare. R. Clement Lucas reports two cases in the *British Medical Journal*, in which infants were attacked by gonorrhœal rheumatism resulting from purulent ophthalmia. One baby was eighteen days old, and both parents had gonorrhœa; the other was three months old.

To make a diagnosis of an affection that is often obscure in its manifestation, especially where no one symptom can always be taken as pathognomonic, we must depend rather upon a collection of symptoms, one corroborating the other and collectively forming a clinical picture of the disease. Thus carefully studied and sifted, a correct diagnosis can sometimes be made out of vague and unpromising materials.

In recognizing rheumatism in children we must often depend on what Goodhart aptly calls the "composite" of the disease. In regard to the wandering pains, it is evident that a certain limitation and care must be exercised before considering them rheumatic. Simple bruises and sores must be eliminated, also the muscular weariness developed in weakly children by over-exercise, the products of tissue metamorphosis being imperfectly removed by the feeble circulation, with resultant irritation and pain. But rheumatic pains usually go from one joint to another, or from one set of muscles to another, and exist independently of any such factors as injury or over-exercise. A pain that attacks a knee, then an ankle, and next the muscles of the thigh or calf, is almost surely rheumatic, without other manifestation of the disease. Complete or partial disability may likewise be added to the pain in a part, without any swelling or redness. Thus a girl, eleven years of age, with rheumatic pains in the left shoulder and side of the neck, was entirely unable to lift her arm, although no lesion could be seen. There may be repeated, but evanescent, pains attacking a single joint or the fasciæ lining certain muscles. Other considerations will aid in recognizing the true nature of the pain. Thus, inquiries as to whether rheumatism is present in parents; a careful examination of the heart for murmurs and palpitations; the presence of chorea; marked hydræmia and indigestion, may all aid a diagnosis.

While rheumatism in children is more apt to be overlooked entirely than mistaken for other diseases, I cannot help thinking that symptoms referred to malaria in early life not infrequently have a rheumatic origin. Salicylate of sodium at times has relieved cases where quinine failed in my hands. Many of these cases of obscure rheumatism, however, are improved by tonic doses of quinine. A certain proportion of the cases of rheumatism in early life present the typical lesions seen in adults, and then, of course, the diagnosis is easy.

With reference to pathology, the acid theory affords to my mind the most satisfactory explanation of the rheumatism of childhood. The two principal sources of the collection of acid in the system are, first, lactic acid fermentation of certain kinds of food within the intestinal tract, and, second, the formation of sarcolactic and ethylene-lactic acids in muscular tissues as a result of their functional activity. As a matter of fact, most rheumatic children are improperly fed either in quantity or quality, and suffer from acid dyspepsia; also, the action of the skin, the principal emunctory of lactic acid, is checked by cold, from insufficient clothing. While the truth of this theory may not have been proven, it affords the most satisfactory working basis for treatment. Lactic acid appears to be very readily formed in early life from indigestion, and, during the first dentition, results, according to good observers, in the production of rachitis, the incipient stage of which is extremely common. It is not unreasonable to suppose that the same irritant produces the fugitive pains of rheumatism in older children.

Treatment.—In the majority of rheumatic persons the trouble has begun early in life, and, as one attack makes a future invasion of the trouble more probable, it is of the greatest importance to check the tendency as far as possible at its onset. Not only should the slightest suspicion of rheumatism in the child be subjected to careful inquiry and prompt treatment, but in cases of hereditary tendency the possibility of trouble should be anticipated and averted by careful hygienic training. All forms of indigestion and acid fermentation of food must be prevented. Children may sometimes be fed too largely and exclusively upon the saccharine and starchy foods. The condition of the skin with reference to warmth and normal activity must receive the needful attention. Many children would do better if they were clad completely in flannel, the thickness of which can be regulated by the season. If the flannel irritates, let the skin be protected by underwear of thin cotton. Most of the children I have treated at my clinic have had undershirts containing

to seek medical advice on the first appearance of pain in the limbs or joints. Brief notes are given of twenty cases of acute rheumatism recently under observation, in nineteen of which the articular affection was preceded by sore throat, and in one the throat and joints were affected simultaneously."—Reports on the Progress of Medicine, New York Medical Journal, vol. xxxiii., 1881.

more cotton than wool, and often exclusively of cotton, during the cold, damp weather of winter and early spring. The first complaint of irregular pains on the part of the child should receive attention and investigation by the physician. If there is any proof, by means of a careful diagnosis, that the trouble is rheumatic, keep the children quiet and in a warm place. My treatment has been to start with a laxative dose of Rochelle salts, followed by a mixture containing oil of wintergreen and salicylate of sodium. At the same time the heart should be always carefully examined, and, if there is any evidence of a bruit, the most absolute and continuous rest in a horizontal position be enjoined. Here it is that permanent and fatal mischief may be avoided. In the first place, a child with slight rheumatism is allowed to go about as usual, exposed to all kinds of weather, until the heart becomes affected; then it sits around complaining of pain in the chest for a few days, when its active habits are at once renewed. This is the history I have frequently seen. The slightest consideration will show how fatally damaging bodily exercise must be to an inflamed heart. The difference in activity and strain put upon the heart in standing up and lying down may be the all-important factor in the child's future. It cannot be too strongly emphasized that the first inception of endocarditis or pericarditis must be recognized, so that all the quiet possible can be given the crippled organ. For this, absolute and continuous body rest afford the only conditions. Otherwise degeneration of the heart muscle, dilatation of the cavity, and crippling of the valves will surely ensue. Goodhart inquires, with pertinence and force, whether in the acute peri- and endocarditis of children a two or three months' recumbency is longer than is necessary for the repair of so damaged an organ.

"Is it too much to insist upon, when the future of a just-opening life depends upon it? The surgeon with the diseased joint makes light of a year of rest; yet who has not seen a child after acute pericarditis skipping about at the end of a month or six weeks as if nothing had been amiss?"

The comparison of the heart to a diseased joint is apt, when we consider Bouillaud's statement that this vital organ acts like a joint in the rheumatism of children. I have recently seen a girl, twelve years of age, brought by her mother to the clinic for pains in the knees. The child was pale, sick, and fainting—symptoms soon explained by the laboring heart and rough murmur that indicated an inflammation still in an acute stage. By dragging the girl about at this critical time her heart was being surely and permanently crippled.

There is evidence that if the heart can be rested for several months in every possible way permanent lesions may sometimes be averted after the endocarditis of children. Let the necessity of a quick recognition of the disease, followed by prolonged rest and nursing, be emphasized by the weight and authority of this Academy.

Even when valvular disease is apparently confirmed in children, vigorous efforts should be made to curtail, and, if possible, overcome, the difficulty. In addition to most careful hygienic oversight, the child should be put upon a prolonged course of iron and cod-liver oil. Occasionally digitalis and other tonics may be indicated. All forms of severe exercise or anything adapted to excite the heart must be scrupulously avoided. Under this treatment cardiac murmurs are sometimes lost sight of in children. With healthy growth and nutrition why may not slight exudation on the valves disappear? Children above an early age bear cardiac disease well from the perfect compensation. In many cases there are no symptoms at all.

I have been treating a boy, thirteen years of age, with double aortic and double mitral murmurs for the past two years, and he has never exhibited a symptom referable to the heart. It is a subject for careful inquiry whether, when young protoplasm is recuperative and growth healthy, more of these cases of valvular trouble cannot be overcome, by puberty, with proper treatment and training.

Descroizilles states that it is important to know that bruits and other stethoscopic signs noted in heart trouble disappear in certain cases in children, sometimes at the end of several weeks or months, sometimes at the end of many years.

Facts of this nature have been cited by Trousseau, Jaccoud, Péter, Roger, René Blache, and Meigs and Pepper. At any rate, valvular disease should be recognized as early as possible in children.

Hence the importance of a more careful study of the rheumatism of childhood, as both it and the cardiac disease induced are so frequently overlooked. We then only get the valvular trouble in the adult when compensation is failing and the prognosis bad. Any effort to lessen the large number of these confirmed sufferers is worthy of careful trial. The crippled lives, agonizing dyspnœa, and sudden death are saddening sights to the physician's life. If a single one of these distressing cases can be prevented by suggestions of early recognition and care, this discussion before the Academy will have served a profitable end [1]

SIZE OF THE HEART IN CHRONIC DIFFUSE NEPHRITIS.[2]

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In venturing to appear before the Section of Practice of Medicine to open a discussion upon this well-worn topic, it is proper to state that it is not the object of this paper to contribute any new theory of the cause of changes in the heart in chronic Bright's disease, nor even to explain why the heart is sometimes affected and sometimes not; but merely to add to the facts that we already possess some personal observations which have been conducted in the post-mortem room during the last eight years. In that time the number of autopsies has been large—so large that it has not been possible, in the intervals of active work, to glean from the entire number all that might bear upon this subject; but in the last few weeks I have carefully reviewed the records of thirteen hundred consecutive autopsies, with a view of ascertaining certain points which, it seemed, might be of interest to the Section. In these thirteen hundred cases there were recorded three hundred well-marked cases of chronic diffuse nephritis. Only those cases were selected for use in this paper in which the evidence was perfectly unmistakable—cases in which usually the prominent naked eye indications of the complex lesions of this disease occurred, such as a granular surface, with more or less well-marked atrophy of the cortex, together with cysts in the cortex, with or without marked decrease in the size of the organs, etc. In some cases, in which doubt could arise from the general appearances as seen by the unaided eye—and these were numerically but very few—the usual microscopical evidences were ob-

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Some Peculiar Complications of Rheumatism in Children. By Dr. R. B. Gilbert. Louisville Medical News, November 14, 1885.
Articles on Chorea and Rheumatism. Gerhardt's Handbuch der Kinderkrankheiten.

[2] Read before the Section of Practice of Medicine, New York Academy of Medicine, January 19, 1886.

tained before the cases were used in the calculations to be presented to you. To be more specific, no cases are included in the three hundred in which the macroscopic appearances were at all doubtful, except such as revealed the well-marked evidences of diffuse nephritis with which we are made familiar by the microscope, such as increase in the intertubular connective tissue, thickening of Bowman's capsules, more or less complete atrophy of many glomeruli, together with fatty degeneration of much of the tubular epithelium and the presence of casts in many of the tubes.

Again, from this list of three hundred, sixty-five have been omitted for various reasons. Of these, twenty-five were cases of amyloid degeneration; eleven occurred in conjunction with aortic aneurisms. Some had valvular cardiac disease; in some the pericardium was adherent, and a few were left out of the calculation for such unusual lesions as cardiac aneurism, congenital smallness of the aorta, fibrous myocarditis, absence of one kidney, congenital or acquired, etc.

It is interesting, in passing, to note that in nearly every case of amyloid degeneration the heart was small in size, frequently smaller than normal, presenting the lesion known as brown atrophy. Moreover, it is very unusual in my experience to find hypertrophy of the heart in any way dependent upon aneurism. Still, for obvious reasons these classes of cases have been excluded from the calculations upon which the conclusions of this paper are based.

In estimating the size of the heart, many difficulties are encountered by the pathological anatomist. If we endeavor to be very exact, and, by measuring the thickness of the ventricular wall, to ascertain with mathematical precision any departure from the normal, we are liable to err in not allowing for the contracted condition of the muscle, which is frequent enough after death, and may cause any heart to simulate a condition of hypertrophy. Again, in the absence of this misleading condition, the thickness of the ventricular wall is not an indication of absolute, but only of relative, hypertrophy. Thus, the size of the cavities, a swell as the thickness of the myocardium, must be taken into consideration. The weight of the heart is said to afford the most accurate indication of absolute hypertrophy; and yet, without due regard to the size and weight, and general development of the body, an accurate knowledge of the heart's weight is of comparatively little value.

It has seemed to me, therefore, that, although it is open to the serious objection that the personal equation is necessarily a factor in the calculation, perhaps it is better, for those who are constantly making autopsies, to rely upon their own judgment, as based upon a multiplicity of observations, in drawing conclusions regarding such complex problems as the size of the heart. One gradually and imperceptibly progresses in his knowledge of pathological appearances, until after mature experience his unbiassed opinion in a given case, formed after due weight has been given to all the various contributing factors, is worth more than conclusions drawn by elaborate application of exact methods of any one kind, such as measurement or weight.

It is important, in this regard, that the opinion as to the size of the heart should be unbiassed by any knowledge of the condition of the kidneys, or, in other words, that the heart should always be examined and its condition recorded before the kidneys are exposed; and this rule has been followed in the cases that are to be laid before you. One more preliminary consideration must be presented to you before the figures are reached. It would be unfair and misleading if you supposed that this investigation has been carried on systematically during all the years that have contributed the facts upon which it is based. Such has not been the case. I have been, however, for a long time impressed with the frequency with which hearts of normal size have occurred in cases of well-marked chronic diffuse nephritis; but many of the cases of this kind were entered in my record-books years before it occurred to me that they were numerous enough for any such use as that to which you are allowing them to be put to-night.

The question of sex, important though it would seem to be in such a calculation as this, has been, however, excluded, because, for obvious reasons, it is of little value in drawing general conclusions as to relative frequency of any morbid conditions from our hospital record-books.

The three hundred cases are subdivided thus with reference to the size of their hearts:

	Cases.
With cardiac hypertrophy	135
Without cardiac hypertrophy	79
With cardiac dilatation, without hypertrophy	21
Omitted from calculation for various causes	65
Total	300

Thus, of the cases referred to, namely, three hundred well-marked instances of chronic diffuse nephritis in all stages, in seventy-nine the hearts were not increased in size. Of these hearts a very few were dilated to a slight extent, and showed, therefore, some decrease in thickness of the ventricular walls, especially the left. Many were distinctly atrophic, exhibiting the condition known as brown atrophy, and some illustrated well the lesion of fatty degeneration.

When we recall that sixty-five were omitted from the calculation for various reasons given above, we are met by the rather striikng conclusion that of the cases tabulated one-third did not exhibit the condition of cardiac hypertrophy. It is proper to remind you that the kidneys in these cases were by no means all *very* small. All, however, were good illustrations of chronic diffuse nephritis, and many of them were of the very small granular variety.

It has been conceded, I believe, that no satisfactory explanation has yet been advanced to account for the hypertrophy of the heart in chronic Bright's disease, unless it be the chemical theory of Dr. Bright, or that of the general arterio-capillary fibrosis, which seems to be steadily gaining ground. But it is beyond question that, with the co-existence of any chronic wasting disease, such as phthisis, the nutrition of the heart may be so lowered in conjunction with the general nutrition as to interfere with and prevent the possibility of its becoming hypertrophic. Accordingly, in view of the seeming disagreement of these results with usually received opinion, it seemed desirable to ascertain what, if any, accessory or contributing diseases were present in these cases; and, as will be seen from the table given below, more than one-third of these apparently anomalous cases did suffer from chronic wasting diseases in addition to the nephritis, such as tuberculosis, including Addison's disease, cirrhosis, abscess, cancer in various regions, etc. Still, this leaves a long number unaccounted for.

TABLE OF CAUSES WHICH CONTRIBUTED TO DEATH IN SEVENTY-NINE CASES MENTIONED ABOVE.

Tuberculosis	15	Erysipelas	1
Addison's disease	1	Fracture of leg	1
Cirrhosis	3	Fatty heart	1
Abscess of gall-bladder	1	Peritonitis	1
Ovarian cyst (no operation)	1	Multiple fractures	4
Epithelioma of face	1	Dysentery	1
Epithelioma of neck	1	Burns	1
Cancer of lungs, pericardium, etc	1	Pericarditis	1
Sarcoma of cerebellum	1	Laceration of œsophagus	1
Stricture of urethra	1	Cerebro-spinal meningitis	1
Cancer of stomach	2	Dislocation of both knees	1
Pneumonia	8	Pyæmia	1
Fracture of skull	7	Myelitis	1
Stricture of pylorus, not cancerous	1	Pulmonary infarctions	1
Apoplexy	4	Penetrating wounds	1
Pachymeningitis hemorrhagica	2	Perityphlitis	1
Sunstroke	1	Intestinal obstruction	1
		Œdema glottidis	1
		No cause except nephritis	7
		Total	79

It is interesting to observe in passing that four deaths from apoplexy occur in this list without the existence of cardiac hypertrophy, which is still, I believe, regarded

by some as an essential factor in the causation of that lesion.

The ages of these seventy-nine cases are as follows:

Under 20 years					1
Between 20 and 29 years					10
"	30	"	39	"	14
"	40	"	49	"	25
"	50	"	59	"	18
"	60	"	69	"	9
"	70	"	79	"	2

In the cases in which hypertrophy existed, namely, one hundred and thirty-five out of two hundred and thirty-five, the diseases which contributed to death were about equally numerous. I will not delay you by the introduction of another long list. It is sufficient to say that, in direct contrast with those in the previous category, chronic wasting diseases were of extremely unfrequent occurrence, and apoplexy was by far the most important factor, numerically speaking.

Apoplexy was responsible for twenty-two deaths, or more than one-sixth of the total number, a strikingly large proportion as compared with those traceable to the same cause (namely, less than one-twentieth of those in the previous category), where there was no cardiac hypertrophy. Pneumonia stood next numerically, and existed in fifteen cases, or one-ninth of the whole. Pericarditis occurred about half as often. Fatty heart came next, with six deaths, and then came a long miscellaneous list of what may be considered indifferent causes.

The only prominent factor in the deaths of the twenty-one cases of dilatation without hypertrophy was pneumonia, which was responsible for one-fifth of them all. It is hardly fair, however, to classify the cases of dilatation by themselves, for the reason that they probably represent hearts that were at one time hypertrophied; and they should, therefore, logically be added to the list of hypertrophied hearts. This would swell the total number of this class to one hundred and fifty-six, a very large, but not unusually large, proportion of the two hundred and thirty-five that form the basis of this brief paper.

One element of doubt which will occur to your minds, and one to which due weight should be given, is the possibility that some of the above apparently anomalous cases may have been cases of amyloid disease in which the waxy changes passed undetected. I can only say that in all cases in which the gross appearance at all suggested the possibility of the presence of this material the usual chemical reagents were resorted to for its detection; and the fact that twenty-five of the sixty-five omitted from this calculation were omitted because they were cases of amyloid disease would lead one to believe that at least the usual proportion of cases of this lesion was recognized by the writer. Still it remains, however, beyond controversy that this lesion is present in chronic Bright's disease far oftener than was formerly supposed to be the case; in many cases to such a very minute extent that the microscope must be employed to render its detection possible; and it cannot be denied that it may have been present here in microscopic amount in some cases in which it was not recognized.

It must also be admitted that the total number of cases is very small for purposes of generalization; hence, the experience of the Section must be looked to for corroboration or correction.

The only important conclusion deducible from what has gone before, and the point in regard to which I hope to elicit testimony this evening, both clinical and anatomical, is that in this city hypertrophy of the heart is less common in chronic Bright's disease than it seems to be in Europe, so far as one can judge by contrasting the results of personal experience here with those which are derived from contemporaneous medical literature.

THE *Popular Science News*, says, to obviate the hereditary tendency to disease in the young, "wash them, air them, and *iron* them."

ARE ANTIPYRETICS IN THE TREATMENT OF ACUTE DISEASES USEFUL AND SAFE?[1]

BY A. A. SMITH, M.D.,

NEW YORK.

INTEREST has been specially awakened in the use of antipyretics in the treatment of acute, and even some chronic, diseases during the past few years. The reduction of temperature has been for many years occupying the attention of physicians, but special attention has been aroused since the publication of the German observers, in the last fifteen or twenty years, in reference to the use of cold in the reduction of temperature. Following this new interest in the subject, new antipyretics have sprung up, and have had many advocates and not a few opponents. At one time quinine had its advocates, and warm ones, too, in the reduction of temperature. With quinine, and the application of cold in its various forms, it was thought possible to so lower the mortality from typhoid fever, and prevent the complications and sequels, as to put in the shade all former plans of treatment, and practically to make it one of the most benign of diseases. This feeling extended to American physicians, and the cold-bath treatment received the sanction of eminent teachers and practitioners. This was but following the teaching of Brand. In 1851, in his first publication, he says: "If typhoid fever is treated from the commencement by cold water, there is in general nothing to fear, and even in cases the most grave, one may yet many times obtain cure by cold water."

Hear him again in 1863: "Every case of typhoid fever treated regularly according to my method takes on a light character, and almost never terminates in death, so that in fact we may say that clinical medicine is in condition to preserve with certainty the lives of all patients entrusted to its care."

And again in 1868: "The treatment by cold baths, methodically employed from the commencement, gives a success positively assured, and always enables one to ward off death."

A French physician of Lyons has summed up Brand's works in these words: "Every case of typhoid fever, treated regularly from the commencement by cold water, will be exempt from complications, and will get well."

When Liebermeister added his name and statistics to those of Brand, it seemed but natural that the medical world should be captured by this plan of treatment. Very quickly the cold bath came into use in this country, following the Germans, as we were formerly in the habit of doing much more than now, and much more than we shall probably ever do again, at least in the way of treatment. What is the result? The plan has been tried, and I venture the statement that to-day not one-quarter of those who were formerly its ardent advocates use it to any great extent. This is not due to the fact that other agents have taken its place, although I must admit this may be true to a certain extent. It is due, it seems to me, to the fact that the treatment as formerly advocated and used was under certain circumstances attended with danger. The application of cold, especially in the form of the cold bath, is an agent which requires great care and good judgment in its use. If properly used, and in properly-selected cases, it seems to me to be an agent capable of doing much good. If used indiscriminately, simply because the thermometer indicates a high temperature, and without regard to all the accompanying circumstances, it may not only do harm, but may be responsible for a fatal termination.

A high temperature simply does not constitute all the danger from a given disease. One patient will tolerate for a long time, and even quite comfortably, a temperature which in another would be accompanied by a train of morbid symptoms in themselves indicating danger. And yet, according to the advocates of the cold-

[1] Read before the Section in Practice of the New York Academy of Medicine, January 19, 1886.

bath treatment, both patients must be treated in exactly the same way. Both must have the temperature reduced by the bath to a certain point regardless of the other effects produced. It has not been proven that high temperature is responsible for the changes which occur in some of the viscera and are found in them after death. It is much more likely these changes are due to the particular poison which produces the fever. In order to determine the usefulness and safety of cold baths in hyperpyrexia from any cause, many things are to be taken into consideration, and this remark may apply to all antipyretics. If a high temperature can be reduced safely, it is fair to presume it is useful. We must consider the general condition of the patient, the stage of the fever, the effects of the first few baths—especially the effects on the nervous system—and the effects on the cardio-vascular system.

If, after the patient is placed in the bath, and the temperature is reduced to, say, 101° F., and then placed in bed, he becomes more quiet, and less delirious (if he has had delirium); if he breathes more easily and less rapidly; if his heart's action becomes more regular and forcible, and the intensity of the first sound is increased; if he falls asleep, and the skin feels moist, he certainly is receiving benefit from the bath. If, however, the extremities remain cold for some time after the bath; if the lips are blue, and the countenance has a deathly hue; if the heart's action is more feeble, and the pulse more irregular, the respiration more rapid and sighing, then, it seems to me, the baths should be discontinued. The stage of the disease at which they would be contra-indicated is an important matter. Taking typhoid fever as a type of the long-continued fevers, I should say, in a general way, that the baths are contra-indicated after the tenth or twelfth day; and, taking pneumonia as the type of short-duration fevers, they are contra-indicated after the third or fourth day, in each case depending somewhat on the condition of the patient. Fever in advanced age contra-indicates them. They are contra-indicated in cases with heart enfeebled from organic disease. But the dangers I have referred to are not the only ones in connection with the cold baths. Congestion of the viscera may, in many instances, be attributed to the baths. I admit the great liability to error on this point, because in all continued fevers there is tendency to congestion of the viscera, more so in some than in others, and much more so in some seasons than in others.

It is rarely necessary to resort to the cold baths for the production of antipyrosis. In very, very rare instances would I advocate the use of the cold bath. I believe all the good to be obtained from the bath can be obtained by milder and less objectionable methods. Cold sponging, wet pack, ice to the head, the cautious and short-time use of the cold coil, and the careful use of ice-water rectal injections will, in the very large majority of instances, accomplish all that the bath does in the way of good, and are attended with the minimum degree of harm. The greatest benefit, it seems to me, in the cold applications, is not the reduction of temperature, but is due to the profound modification in the functions of the nervous system (especially the vaso-motor). It is not always agreeable to patients (if they have their senses sufficiently to recognize distinctions) to have cold applied. Especially is this so with children. But very few patients will object to the application of tepid water by means of sponging, or cloths, or the wet sheet. It has seemed to me I have succeeded in even reducing the temperature more decidedly by the tepid applications than by cold ones. Certainly, the effects on the nervous system are, as a rule, more beneficial, and these beneficial effects on the nervous system always affect favorably the progress of the fever. Some observers have even gone so far as to assert that almost all the beneficial effects of baths, whether cold or warm, are due to the restoration of the functions of the vaso-motors in the cutaneous capillary network which are so profoundly disturbed in fevers. If this be true, then the tepid applications ought to influence the progress of the fever more favorably than cold ones.

But I have only touched one class of antipyretics, the refrigerants and the opposites.

Quinine in small doses increases the strength of the circulation; just how, we do not know, unless it be by its stimulating effect on the nervous system.

In large doses it diminishes the blood-pressure, by weakening the heart, and partly by paralyzing the vaso-motor centre, thus causing dilatation of blood-vessels.

The heart's action is weakened by large doses of quinine, from its action on motor ganglia, and probably also on the muscular fibres of the heart itself. In a discussion before the New York Clinical Society, two years ago, I raised my protest against the large doses of quinine in certain stages of fevers, and in any case with cardiac enfeeblement, as being possibly dangerous, and need only refer to such possibility here. Then we have the salicyl compounds—salicylic acid, etc., and the aromatic series, as represented by kairin, resorcin, thallin, hydroquinone, etc. And the latest, a nondescript, antipyrin. It is an agent which thus far gives better results than any other. It will reduce temperature in almost every case. It has already, with many, entirely displaced cold and quinine. In some instances it produces nausea and even vomiting, and occasionally cardiac depression, but these unpleasant symptoms have been produced only by very large doses. During my early use of it I followed the plan suggested by the German observers and gave it in large doses, thirty or forty grains every hour, until there was a decided fall of temperature. Now, I find it necessary only to give ten or fifteen grains, ordinarily, to reduce the temperature two or three degrees. On account of this tendency to nausea and sometimes vomiting, and occasionally cardiac depression, I soon fell into the habit of always giving a small quantity of alcoholic stimulant with each dose. Of late, I rarely ever see any unpleasant symptoms from its use. In children, I have observed sometimes a marked paleness soon after it began to produce its effects, but even in such cases a small quantity of stimulant quickly overcomes this unpleasant symptom. It can be given by the rectum, and by hypodermic injection. The objection to its use by hypodermic injection is that it gives much pain. I have used it in a large variety of cases, and consider it by far the most useful and the safest antipyretic yet discovered, if used in not too large doses, and if in connection with its use cardiac stimulants be given when there is any suspicion of cardiac enfeeblement. Whether it favors the tendency to visceral congestions remains to be proved. It seems certain that any antipyretic used to the point of producing great variations in temperature might produce unfavorable symptoms, visceral engorgements among the rest. If we would always resist the temptation to cause too great a fall of temperature, even though it be high, it seems to me we would be more likely to produce good effects and less likely to do harm.

Some Good Advice.—"Sound physiology must be the basis of sound practice"—a fact long recognized in Scotland, where physiology has always been taught as "The Institutes of Medicine." "Nitrogenous waste in the blood is the root of many evils." "Treat the heart as you would your horse: when the roads are heavy feed it well, else you may have a breakdown in a dark night on a miry road." "In lung disease death comes through want of air; therefore, beware of opium." "In painful abdominal diseases death comes through nervous shock, therefore hold on by opium." "Above all, beware of looking at a sign-post instead of looking at the road. If you find sugar or albumen in the urine, do not bolt off with the idea that your patient is fatally ill of diabetes or Bright's disease—that is to look at a naked post and see nothing at either side. Study your *patient*, not merely his *urine*."—*Fothergill.*

"IS ULCERATIVE ENDOCARDITIS ALWAYS A SPECIFIC DISEASE?"[1]

By T. E. SATTERTHWAITE, M.D.,

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AN answer to the question "Is Ulcerative Endocarditis always a Specific Disease?" involves the entire subject of endocarditis, and I will therefore proceed at once to give my definitions of that disease in its various forms.

Through the irritative action of certain animal poisons there is set up within the substance of the cardiac valves, or in their annexa, certain inflammatory or degenerative changes, by which the tissues become swollen and infiltrated, chiefly with cellular and fibrinous exudates, the latter often undergoing molecular disintegration and giving rise to ulcers, upon which there may form, at a later stage, papillary or villous excrescences, and even membranes like those of diphtheria. Sometimes the new products calcify, either alone or with the original tissue; occasionally pus is intermingled with the deposits.

These alterations of the normal structures lead to a multiplicity of secondary phenomena in other organs of the body.

Endocarditis, in any form, is rarely produced by an injury, but in fully one-third of the cases we recognize certain antecedent conditions that are associated in our minds with the etiology of the disease, and the most prominent is acute articular rheumatism. Sometimes the two diseases occur together; probably not so often as we once thought. Sometimes the heart-lesion follows. Other, but much rarer, antecedent conditions are the puerperal state, scarlatina, measles, dysentery, and typhus; but how close the alliance between these several diseases and the one we have under consideration is a matter of some uncertainty. It is commonly said that pyæmia is one of the precursors of endocarditis; personally I have never known them associated together. In about fifty per cent. of the cases the cause remains unknown, although searching inquiries are instituted. But we judge from analogy that the disease is due to a poisonous condition of the blood; possibly to a prolonged high temperature, which has been thought by some to be competent to produce it. There seems to be evidence that tuberculosis also is occasionally the cause. Of this I have no personal knowledge. I do not include senile thickening of the valves among the inflammatory changes.

As for the locality, I am inclined to think that there is no very strict rule in reference to the valves that are elected. It is commonly thought that the left side of the heart is most frequently attacked in extra-uterine line, while the right is involved in the congenital disease. In my collection of forty-eight cases the aortic was somewhat more frequently diseased than the mitral; in twenty-six cases both aortic and mitral were affected; the tricuspid was never the only valve diseased, and only in four cases, always in association with two other valves; the pulmonary was only affected three times, and also in association with two other valves.

There seems to be no doubt that patients seldom suffer much from the simpler forms of endocarditis in their early stages. They often complain of some precordial pain, though even these symptoms may be due to an associated pericarditis, the irregular action of a hypertrophied heart, or pulmonary complications. In a large number of cases there is a noteworthy frequency of the pulse, which, however, is lessened when compensatory hypertrophy has been established—a pulse of 120 to 140 is not uncommon at first. Dyspnœa, orthopnœa, and palpitation also are of pretty regular occurrence. But it is the accidents and complications that are most dangerous to life. In a disease that in nine out of ten cases lasts for years (sometimes twenty, and thirty, and even more), it is natural that these accidents should occur; and we find them in the shape of infarcts in the kidneys, lungs, spleen, or brain, etc., in one-third of the patients. In the great majority they do not cause death—and yet it is these embolic phenomena that often produce the remarkable attacks of chills and fever that puzzle the attendant, because the exacerbations often occur, for some unknown reason, with a remarkable periodicity; but it need not be supposed that such peculiar attacks indicate a septic condition or any specific complication. They occur equally well when the infarcts are benign in character.

It is, however, these secondary phenomena—such as an embolic pneumonia, which only attacks portions of a lobe, never the whole lobe; the enlarged and tender spleen; and bloody urine, with albumen and casts—that should turn the physician's attention toward a possible cardiac disease, even if the physical signs and subjective symptoms have not suggested it.

But probably the most important complication is chronic diffuse nephritis, which stands in close relation to the main etiological factor, viz., acute articular rheumatism; for I have found the latter to precede the former in from forty to eighty per cent. of my cases. It is not strange, then, that about one-half of the cases of endocarditis die of uræmic poisoning in one of its many forms; either through cardiac or respiratory failure, laryngeal spasm, and œdema of the lungs, due to a suspension of the several functions; rather than to cerebral embolism, pulmonary infarcts, or secondary abscesses.

It follows, as a premise from what has already been advanced, that there is some tendency toward cure, even in destructive or deformative endocarditis; and, indeed, the process of cicatrization of the valvular cusps is often a very perfect one, so far as the healing of the ulcer is concerned. Naturally there is some loss of substance, and often a marked deformity.

But while I have thus briefly alluded to the acute and chronic forms of endocarditis, I have left for consideration a variety that has received the names malignant, infectious, diphtheritic, plastic, mycotic, etc., by a certain class of persons, and with these I wish to join in giving it a separate entity. Infective or suppurative endocarditis, as I would call it, rather than malignant or ulcerative, etc. is a comparatively rare disease, if we wish to view it from the narrow standpoint that I think is the only safe one., Pathologically, it is distinct from the others, in that it produces peculiar infarcts which have no tendency toward resolution, but rather in the direction of diffuse abscesses. I offer two such cases, and one that is possibly doubtful, as my contribution to this topic.

CASE I.—Infective or suppurative endocarditis. J. C. A——, colored, aged forty-six, was admitted to St. Luke's Hospital, November 5, 1878. He was first taken sick on October 25th; had never before been seriously ill. He first experienced pain in his left knee, and about that time had chilly sensations, followed by headache, backache, and some fever. He took to his bed, where he remained until removed to the hospital. On admission there was found to be pain in the left side of his back, and in his left leg. His left wrist also was swollen, tender, and intensely painful; no fever, but great prostration. On November 28th, after showing no signs of improvement, he passed blood per rectum. Temperature was then found to be 102.4°. Probably there had been an evening rise of temperature for some time; it remained between 101° and 102° until December 3d, when further weakness, trembling of the masseters, and subsultus developed. Toward the end his temperature rose to 104°; pulse to 116; respiration to 46. At post-mortem examination the heart was not found especially hypertrophied, as would have been the case in old endocarditis. At the aortic orifice, beneath one of the cusps, was a verrucose growth the size of a small chestnut, while the valve itself was ruptured. On removing the brain, collections of pus were found in the meshes of the pia mater. At the wrist the first row of carpal bones was found necrotic. Duration of sickness about six weeks.

CASE II.—Infective or suppurative endocarditis. The

[1] Read before the Section in Practice, New York Academy of Medicine, February 16, 1886.

history of the case and the specimens were sent me by Dr. Dorning, of the house staff at St. Francis Hospital. A patient of alcoholic habits, aged forty-one, was admitted to the hospital in November of 1882. It was said on his admission to the hospital that he had contracted a lobar pneumonia on October 30th. The sickness was characterized by high temperatures, but no cardiac murmurs were at first detected. Later on this point did not receive much attention, as other and apparently more important conditions obscured the cardiac disease. At post-mortem examination the aortic cusps were found extensively diseased, each segment exhibiting vegetations, while one carried a growth the size of a hickory-nut and was ruptured and ulcerated. An abscess was also found in the course of the coronary artery, and a sinus led from it to the fungating mass in the aortic valve. The spleen contained an infarction. Duration of illness about five weeks.

Case III.—Infective or suppurative endocarditis. A gentleman of this city was taken sick with an attack of fever that confined him to his room for four or five days. He then felt better and went down-stairs, but soon returned and took to his bed. During the first two weeks of his attack the temperature ranged from 98° to 100° F. His pulse also averaged from 140 to 150, sometimes reaching 160. During the last two weeks of his life it had a wider range (120 to 150), but the temperature remained higher (from 102° to 105°). At an early period the diagnosis of obstructive endocarditis was made out. The respiration was never embarrassed, except when the patient sat up. There was never any impairment of motion or sensibility; nor did he experience any pain except on one occasion, when his physician attempted to turn him on the left side. He then cried out suddenly, "You have killed me!" and placed his hand over the region of the spleen, groaning with pain. He recovered from this attack. The patient died with suppression, though no symptoms of renal disease had been made out during life.

Post-mortem examination revealed a stenosis of the aorta so great that I could hardly pass the first joint of my little finger through it. The surfaces of the cusps were marked by calcareous concretions and vegetations. The heart, and especially the left ventricle, was hypertrophied and dilated. The kidneys presented the usual appearances seen in the large variety of chronic diffuse nephritis, and contained both recent and old infarctions. The lungs also contained infarctions. The spleen, however, and the meninges showed the most important lesions. The first-mentioned organ measured about nine inches in length, and was the seat of numerous infarcts, and of various ages, some of them red, others brown, others yellow, while one had the point of origin for an abscess from which a pint to a pint and a half of dirty grumous offensive matter was discharged.

Emboli were also found in the meshes of the pia, but they had given rise to suppurative and not fibrinous or serous exudates. This acute attack was plainly engrafted on an old one of rheumatic endocarditis.

We have thus seen that a classification of morbid endocardial changes embraces the following varieties:

1. Simple acute endocarditis; 2, chronic endocarditis; 3, acute infective or suppurative endocarditis; 4, tubercular endocarditis; and 5, senile thickening.

And now for an answer to the question that has been proposed by this Section, "Is Ulcerative Endocarditis always a Specific Disease?" I venture to state that ordinary ulcerative endocarditis is merely an ordinary but late phase of acute or chronic endocardial disease, and a very common one—fatal only through its secondary complications, such as cerebral embolism and the like; recovery taking place in a large number of cases, with a more or less damaged brain, kidney, lung, or spleen, as the case may be. In a very limited range of cases—about six per cent. according to my figures—we have the infective or suppurative form, that appears to be uniformly fatal through its septic or quasi-pyæmic characters.

Naturally the diagnosis will not always be made; but it may be inferred with a reasonable amount of certainty where the diagnosis of acute endocarditis is possible, if the secondary involvement of the several viscera I have mentioned is associated with symptoms of a typhoid or pyæmic character in addition to those of simple endocarditis.

The disease appears to attack persons of middle age, lasts from four to six weeks, and the temperature gradually rises until death takes place.

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SOME MEDICO-LEGAL CASES.

By HENRY A. RILEY, Esq.,

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The following curious case is found in a recent Illinois court. In an action for an assault and battery, a witness who was a physician was called to testify in behalf of the plaintiff on the trial, and stated that he was called to see the plaintiff professionally after the injury, and described the condition in which he found the patient. The witness was then shown a policeman's "billy," and asked if a blow struck with it on the head or near the temple would or would not be likely to produce upon the person receiving such blow a condition like that in which he found the plaintiff. The witness thereupon, without answering the question, made inquiry of the court whether it did not call solely for a professional opinion, and the court answered that it did. Witness then declined to answer until his professional fee of $10 had been paid or secured to him, and persisting in his refusal the court imposed a fine upon him as for a contempt of court. An appeal having been taken, it was held that the witness having already, and without objection on his part, stated the condition of the patient he had visited, he could not properly refuse to give his opinion as to the cause of the symptoms he discovered to exist, and that the payment of his professional fee could not be made a condition of his answering. The opinion sought was pertinent to the subject about which he had voluntarily testified.

The contest between the undertakers and the Health Board of Newtown, Long Island, where so many of the large cemeteries are located, is likely to be taken into the courts for settlement. The question has certainly two sides, and it is not altogether certain which side will be victorious. It appears that the extent of cemetery property, which is made not taxable by law, is so great that other lands are unduly taxed, and the price of property is depreciated in Newtown.

On the other hand, it is said that the action of the Health Board in fixing a charge of $1 for each burial permit is ostensibly based on the ground that it was a sanitary measure, and that the payment of the money cannot affect the question of health at all. Newtown is certainly not any healthier because all bodies are now interred at a uniform charge of $1, when some weeks since there was no charge at all.

It seems to be clear that the reasons for making the charge will have to be somewhat shifted, as the courts have in a number of cases recently overturned laws said to have been enacted as health measures. A notable instance of this was shown in the Tenement-house Cigar Bill, which forbade the manufacture of cigars in certain classes of tenement-houses. This law pretended to be a health measure, but the Court of Appeals said that it was rather a law to prevent injurious competition in business, and declared it unconstitutional. Some experiences like this may be in store for the Newtown authorities.

The annual report just filed by Dairy Commissioner Josiah K. Brown is an interesting document. He states that the execution of the laws against adulteration has been hindered by some decisions in the courts, particularly that of the Court of Appeals in the Marx case, where it was held that the law prohibiting the manufacture and sale of oleomargarine was unconstitutional. On this

point he says that "the decision has worked to the disadvantage of those who have been anxious to suppress the sale of spurious articles of the character mentioned. Dealers in imitations have in many instances boldly defied even the laws that are beyond question valid. Notwithstanding these objections much has been done to bring offenders to justice. There are now upward of two hundred cases in the courts.

"Many careful tests have been, and are continually being, made throughout the State, which fully sustain the correctness of the milk standard established by the act of 1884. Although the sale of imitation butter has been reduced in this State, the sales in the United States as a whole have materially increased since 1883." Dr. R. D. Clark, of Albany, in a paper, included in the report, states that oleomargarine, in his opinion, is dangerous to health, because it is indigestible, is insoluble when made from animal fats, is liable to carry the germs of disease into the human system, and also because the manufacturers, in order to make the compound cheap, insert ingredients which are acknowledged to be detrimental to health.

There have been a number of cases mentioned recently in the daily papers where physicians were charged with indecent assault upon their patients, and it would seem as if there was either a great lowering of professional honor on the part of the physicians, or else a growing desire on the part of patients to take advantage of any opportunities to blackmail their medical advisers.

The latter is, we think, the more likely view, and so serious do many physicians deem the matter that some have adopted the rule not to see female patients except in the presence of a witness. One of the latest cases which has found its way into the courts is that of Dr. Heald, of Leeds, England, who was accused of indecent assault by a young schoolmistress who consulted him in reference to a cough. It was shown on the trial that the patient was subject to attacks of hysteria, and the jury considered the case one of hallucination, or worse, and acquitted Dr. Heald after a short deliberation of only ten minutes.

It will be remembered that about a year since Dr. R. A. Gunn, of this city, charged State Senator Coggeshall with seeking a bribe from him, for favorable action on a bill then before the State Legislature. Mr. Coggeshall denied the statement, but did not avail himself of the invitation extended by Dr. Gunn to sue him for libel. Senator Coggeshall did, however, bring a libel suit against the Rome (N. Y.) *Sentinel*, for publishing the statement of Dr. Gunn, and the proprietors of the paper have filed their answer, alleging that Senator Coggeshall's reputation as a bribe-taker warranted the assumption of the truth of the charge, and alleging further that he was given to intoxication.

HÉGAR'S SIGN OF EARLY PREGNANCY.

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In the practice of the gynecologist, in particular, it is frequently necessary to be positively assured of the non-existence of pregnancy before instituting such local treatment as the exigencies of the case seem to require. In the absence of such assurance, the sole course open to him is to defer treatment for a variable period of time, until the rational history or repeated vaginal and bimanual examination lead him to think that the case is one where treatment, as far as the interior of the uterus is concerned, is contra-indicated, until the ovum, which he finally concludes is probably contained within this organ, has reached maturity and been expelled. Is there any diagnostic sign by means of which, at the first local examination, the existence of pregnancy may be determined with almost positive certainty as early, even, as the fifth week of utero-gestation? Such a sign is offered to us by Hégar; and since my attention was first directed to it, fully eighteen months ago, I have had frequent opportunity of putting it to the test, and have, by means of it, been able to assert as early as the fourth to the sixth week that gestation existed. This statement, in face of the teaching of all our text-books that certainty of pregnancy cannot exist until the fœtal heart and fœtal movements are appreciated by the accoucheur, and that before this period all other signs conjoined are simply of presumptive value, undoubtedly appears strong; but my experience, so far as it has gone, justifies me in my belief.

Since my object is to call attention to this sign of Hégar's, and not to rehearse the signs which, in the early months of pregnancy, point to this condition, I proceed at once to its consideration; and, in order to make the sign clear, would call attention to the gross changes which take place in the uterus prior to the second month of uterine gestation: that is to say, before any classical physical signs—such as discoloration of the vaginal mucous membrane, softening of the cervix—have become at all marked. The early rational history I purposely leave out of the question, for such history our patients frequently falsify.

During the first six to eight weeks of pregnancy the changes in the uterus are practically limited to the body of the organ. The uterine body enlarges, especially in its transverse diameter (antero-posteriorly); the muscular substance becomes less dense. These changes are simply the result of the hyperæmic condition into which the corpus is thrown and kept by the engrafting of the impregnated ovum. As the result of such changes, the uterine body loses its nulliparous pear-shape; its contour no longer gradually diminishes as it approaches the uterine neck; the body, on the contrary, bellies out (if I may use the term) over the cervix in all the transverse diameters, in particular, antero-posteriorly, and the organ, instead of being pear-shaped, resembles very much an old-fashioned, fat-bellied jug. These two appearances I have tried to represent schematically below:

Outline Non-impregnated. Outline Impregnated Uterus.

The above changes in the consistency and shape of the body of the uterus constitute Hégar's sign, and so far, in at least a dozen cases, it has never failed me in early diagnosis. The obtaining of this sign requires, of course, a certain expertness in the bi-manual palpation, and familiarity with the sensation communicated to the finger by the nulliparous uterus, and the uterus altered pathologically in one or another way. I have found, however, in my clinical teaching, but little difficulty in making even inexpert fingers conscious of the change. In the vast majority of cases, owing to the normally slight anterior curvature of the uterus, the internal examining finger will note this sign to the best advantage in the anterior cul-de-sac. Here the finger, instead of following the line of the cervix in a gentle curve up on to the body, is at once conscious of the body swelling out to a greater or lesser degree, according to the date of impregnation, over the cervix, and at the same time, bi-manually, the body is faintly boggy, resilient, compressible. If such be the condition of affairs detected by the local examination, in the absence of rational history, in the absence of slight softening at the tip of the cervix (which may, if present, mean erosion), and of mammary signs and blue discoloration of the vagina (both of which, if present, may mean ovarian disease), I now unhesitatingly pronounce the patient pregnant. The question arises, Are there other conditions which may simulate the above sign? There

are two which, I can imagine, might—distended bladder and uterus distended by menstrual blood. Neither of these conditions ought, however, to give rise to error, for a necessary prelude to a careful bi-manual is evacuation of the bladder by means of the catheter; and retained menstrual blood in the uterus, if not accompanied physically by imperforate hymen or vagina, would necessarily be suggested by the history (no ground for falsifying here) before sufficient had collected to give rise to even faint fluctuation. Hyperplasia of the corpus uterus cannot simulate this sign, because in this condition the conjoined touch reveals density; sub-involution cannot, because here the uterus is increased in its longitudinal as well as in its transverse diameters, and conjoined touch, while revealing heaviness and softness, does not reveal resiliency and compressibility. The markedly anteflexed corpus uteri, hyperemic from obstructed circulation, is most likely to simulate Hégar's sign, but in case of such distortion the feeling of resiliency and compressibility is also lacking. In marked retroversion this sign is likely to fail on account of the difficulty of palpating with ease the uterine body. Rectal examination might assist here, but as yet I have had no opportunity to seek for this sign in case of this variety of displacement. Compes (*Berlin Klin. Wochen.*, September 8) zg, 1w 1S ' yo, as far as I am aware, is the only observer who has published observations in regard to Hégar's sign, says that it may always be obtained to better advantage by means of the thumb in the vagina, the index in the rectum, and the other hand externally. He thus, he tells us, reaches the portio vaginalis with his thumb, places his index finger above the sacro-uterine ligaments, and when the external hand depresses the fundus, is able, to better advantage, to explore the lower uterine segment. I fail to see in what respect this manœuvre is superior to the vagino-abdominal method which I practise, aside from my belief that it must be only very exceptionally that the thumb can reach the cervix *per vaginam* while the index is above the insertion of the posterior uterine ligaments *per rectum*.

Since this paper has already exceeded the limits I had intended, I refrain from quoting more than one case in which I have noted this sign. I report this single case because it emphasizes strongly the value of Hégar's sign in diagnosis.

S——, aged nineteen, was brought to the Polyclinic by her mother in order that amenorrhœa of two months' duration might be accounted for. The girl was sufficiently anæmic to suggest this as a cause, especially as absolutely no rational history could be obtained, either from mother or daughter, which might suggest the physiological cause of amenorrhœa. Examination of the breasts revealed nothing distinctive. In Professor Mundé's absence, I examined the case before the class, and, finding Hégar's sign, pronounced her pregnant. The hymen was intact, the external os at its tip was soft, but this could be accounted for by an erosion resulting from a slight endocervical catarrh. Both mother and daughter were highly indignant, because three days previously a gentleman, whose opinion I should ever rank above my own, had pronounced the girl not pregnant. The assistants were inclined to laugh at my apparent discomfiture, but I clung to my diagnosis, and had the satisfaction of hearing a few weeks afterward that the assistant who had laughed the most had been called from bed, in the small hours of the morning, to remove an eight weeks' ovum from this young girl. As it was a charity case, he was amply paid for his laughter!

Seven of my cases were seen at the Polyclinic in the service of Professor Mundé; four were private, and in these, as well as in the clinic cases, the certainty of diagnosis was established by after-observation. In seven additional cases an early diagnosis was likewise made, but I do not use them in support of my belief in the efficiency of Hégar's sign, because none of these cases were seen a second time. It is in place to state that largely by means of this sign Dr. Mundé was able in one case to make a positive diagnosis as early as the fifth week, although both husband and wife assured him of its impossibility on account of the precautionary measure they were in the habit of taking.

In order to settle the value of this sign positively, it is of course apparent that others must note the result of their experience. As the matter now stands, Hégar believes this sign to be of great value, Compes regards it as positive, and I am inclined, from a limited experience, to consider it infallible.

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PAINLESS OPERATION FOR PHIMOSIS.

Dr. W. Rounds Barnes, of Binghamton, N. Y., writes that he performed circumcision upon a man forty-two years of age, after having previously applied a four-per-cent. solution of cocaine for twelve minutes to both surfaces of the prepuce along the proposed line of incision. The patient himself rendered good service in wiping away the blood, and in holding the mucous and cutaneous surfaces together while the sutures were inserted. The hemorrhage was very slight until sensation returned, which was not until the last suture was being put in. The patient remarked at that time that that was the first pain he had felt. The operation occupied thirteen minutes.

THE IMPORTANCE OF ANTISEPSIS IN MIDWIFERY.

Dr. Barton C. Hirst, of 219 South Seventeenth Street, Philadelphia, writes that during his term of service as interne in the University Hospital for Women, in Munich, under Professor Winckel, there occurred a case in the obstetrical wards which strikingly illustrated the importance of a rigid adherence to antiseptic principles in the management of a woman in labor. "The patient was a young primipara, and the labor was progressing favorably, when the interne in charge retired to his room for a few minutes' rest, leaving the case in charge of a student, with directions that he should be called as soon as the os was fully dilated and the child's head began to descend. This was not done, however, and on next entering the ward the interne found that the child had been born, and that the mother was almost exsanguine in consequence of a furious arterial hemorrhage from a torn perineum. The woman's condition demanded immediate action, so the wound was hurriedly tamponed without the usual antiseptic precautions, and the hemorrhage was finally controlled by deep stitches. An attempt was afterward made to disinfect the vagina and the wound with corrosive sublimate solution, but the patient developed all the symptoms of septicæmia, and after an illness of some weeks died. This was the only death from such a cause that had occurred in the hospital for a period of over three months and out of a number of more than three hundred cases."

GUNSHOT WOUND OF THE LIVER.

Dr. A. P. Frick, of Fort Thomas, Ariz. Terr., writes: "W. C. J——, a civilian, who was attacked by Indians at his ranch near Black Rock, Ariz. Terr., was admitted to hospital on November 30th, with three gunshot wounds, caused, apparently, by 44-calibre rifle bullets, which he had received the evening before. He was a large, muscular man, weighing about two hundred pounds, and about forty years of age. One ball had passed through the middle third of the right thigh, in front of the femur, and another had caused a compound comminuted fract-

ure of the lower portion of the left ulna. The third ball had entered the body one inch and a half below the lower end of the sternum, and one-half inch to the left of the median line. The bullet passed slightly downward and back to the right side, making its exit at a point midway between the anterior and posterior median lines of the body, and just under the free border of the ribs. It was at first believed that the liver might have escaped injury. All the wounds were dressed antiseptically, with drainage at the exit of the abdominal wound. On the second day a free discharge of bile came through the drainage tube, and the neighboring tissues were infiltrated with the same secretion. On consultation with my friend Dr. William L. Wardwell, of New York City, who is now visiting at this Post, it was decided that, without interference, the wound would inevitably prove fatal; and that there was but a forlorn hope in an operation upon the gall-bladder, with a view to arresting the flow of bile. This operation was accordingly proposed, but was not consented to by the patient and his friends. Death occurred at 11 P.M. on December 4th, a little over five days from the time of receiving the wounds. No post-mortem was permitted.

POISONING FROM THE EXTERNAL APPLICATION OF ACONITE.

Dr. Herman Gasser, of Platteville, Wis., writes that he was called to see a druggist who was suffering from rheumatism in the feet. The patient had been employing tincture of aconite as an external application, and had used up an ounce in this way in three days. As he was no better, Dr. Gasser ordered the discontinuance of the aconite and gave him salicylate of soda and colchicum internally. On the following morning he was much better and took a hot foot-bath, keeping his feet immersed without rubbing for about half an hour. At the end of this time he began to feel so "very peculiar" that the writer was sent for. He found him sitting in a chair and complaining of tingling sensations, starting from the hands and feet and extending over the entire body, and of nausea. The pulse was weak and slow, and the skin was cool and moist. As he was growing worse and was vomiting frothy mucus, he was put to bed, and hot-water bottles were applied to his body. Although he had taken no aconite internally, the symptoms were unmistakably those of aconite poisoning, and Dr. Gasser was about to give him a hypodermic injection of brandy and digitalis over the heart, when he was taken with a spasm, made a few jerking efforts at respiration, and then seemingly died of syncope. The heart had apparently ceased to beat, and pulsations could be detected neither by the writer nor by Dr. Buck, who was present. Although without hope of restoring the patient, the hypodermic injection was nevertheless given, partly for the reason that it was prepared. In about a minute he began to gasp for air, and the heart could be felt to beat. The injection was then repeated, hot wet cloths were laid over the heart, and an enema of brandy and digitalis was given by the bowel. Reaction was soon fully restored, the pulse and respiration became strong, and the skin warm, red, and covered with perspiration. This was followed by spasms, which were controlled by morphine and ether, and the patient then passed into a restless sleep from which he awoke conscious but dull. The following morning, though feeling rather stupid, he arose and ate breakfast with his family. Dr. Gasser offers the following explanation of the occurrence of poisoning:

"Tincture of aconite is a resinous solution in alcohol, and as fast as it was applied to the skin the alcohol evaporated and the aconite was deposited like a coat of varnish on the skin. (The limbs were bathed with it from the knee down.) The hot-water soaking caused a congestion and softening of the skin, and put it in the best possible condition for absorption."

Progress of Medical Science.

Iridescent Calculi.—At a recent meeting of the London Pathological Society (*The Lancet*, November 21, 1885), Mr. S. G. Shattock read a paper on "Iridescence in Calculi." He showed a group of fifty calculi of most varied form, and having sharp facets. The largest was two centimetres in its greatest measurement, the smallest about the size of a hempseed. A remarkable iridescent, lustrous, yellow color was evident in all. This property was confined to a distinct separable surface layer. The inner substance was phosphatic and composed of conical intersecting tufts of fine acicular crystals. The calculi were removed from the prostate of a man on July 20, 1843. Phosphate of lime and magnesia and ammonio-phosphate of magnesia formed, with carbonate of lime, the chief chemical constituents. A laminated nucleus was found in the centre. Renal and vesical calculi, pseudo-metallic in appearance, had been described in herbivora; these consisted of carbonate of lime. They were very rare in man. The only one he knew of was in University College museum, and was given to the late Mr. Liston by Civiale. Thin sections of the prostatic calculi showed two kinds of structure. The iridescent thin layer was composed of a large number of closely-apposed homogeneous concentric lamellæ, of great tenuity, and translucent. All the calculi examined had a distinct, compact, pale-brown, spherical, laminated nucleus. These were evidently identical with minute prostatic calculi. The porcellanous appearance of certain prostatic calculi was due to a similar disposition of the superficial lamellæ, which, however, were less regularly arranged; phosphate of lime with a small proportion of carbonate formed the bulk of the porcellanous surface. He remarked that all the calculi were made up of phosphate and carbonate of lime combined with a colloidal base. The colloidal base in this case had been found by Dr. Bernays. Mr. Shattock suggested that in all cases in which iridescent calculi were formed the urine contained albumen, though not necessarily albumen from the kidney. In support of this he referred to a case of iridescent calculi shown to the Society last year by Mr. Bilton Pollard, where the calculus was contained in the pelvis, and the urine contained pus. Dr. W. H. Stone had examined the iridescent calculi shown, and had found that the iridescence was a phenomenon of diffraction. In the discussion which followed Dr. Ord said that he did not regard the iridescence as due to diffraction, but to the same class of phenomena as Newton's rings. A typical colloid was the organic basis of such calculi, and the importance of carbonate of lime was great. In the ordinary pearl we had both these elements at work. These calculi must have been formed very slowly.

Spasm of the Sphincter Ani, and its Treatment by Forcible Dilatation.—From his experience in the management of spasm of the sphincter ani, Dr. T. Pridgin Teale (*Medical Times and Gazette*) concludes: (1) That spasm of the sphincter ani, as a cause of constipation, suffering, and ill-health, is often overlooked, and patients are allowed to suffer for years who might be cured in five minutes. (2) That spasm of the sphincter can be arrested by forcible dilatation more satisfactorily, more certainly, more scientifically, and with greater safety, than by division by the knife. (3) That in all operations on the rectum and anus dilatation of the sphincter is an essential, almost an indispensable, element in the treatment.

In Acute Catarrhal Conjunctivitis Dr. Bieloff, of Kiew, recommends the external use of bichloride of mercury in solution not stronger than 1 to 2,000, or gr. j to ʒ iv. of water.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, February 27, 1886.

THE DOCTOR'S HOBBIES.

IT was, we believe, Sir Walter Scott who said that the architect who knew nothing but architecture was nothing but a carpenter; and Mr. Timothy Holmes, in his address to students, has said that "A man who is nothing but a doctor, is not generally first-rate at that."

It would, perhaps, surprise the profesion sa little, and their patients a good deal, if it were known what hobbies and curious diversions many distinguished and successful physicians have had. If we mistake not, however, it is between art, literature, and horses that physicians who seek some outside interest or means of recreation divide their attention. We have many eminent doctors who are skilled in music or drawing, perhaps good amateur painters or etchers; many are book-collectors or contributors to general literature. Very few, we imagine, take up any collateral branch of science, although we have some excellent botanists and naturalists. The chief drawback to the pursuit of medicine, says Mr. Holmes, "is the labor which it entails, a labor never ending, and which leaves its victim no repose, literally, night or day, and under which men are apt to degenerate into mere business-machines, and to care for nothin gexcept their profession. No doubt, this is a lesser evil than the listlessness which follows on idleness; still, it is an ignoble condition. It deprives a man of all power of companionship with the world at large, and shuts from his eyes many of the sweetest and loveliest things of life. It makes a man the slave of his business, instead of its master, and it confines his mental faculties to a groove, in which they wither, so that business itself soon becomes a dull routine."

The best antidote to all this is the cultivation of a taste for some worthy object. Mr. Holmes, who is himself an excellent Greek scholar, thinks that the best of all tastes is that for literature. To this he adds a recommendation of the cultivation of the art of conversation, an art which has the advantage over reading of being more social and unselfish.

"I believe," says he, "the art of conversation is said to be decaying. The more the pity, for it is a grand art, as well as a most delightful accomplishment, and, to a medical man, who has to associate with all kinds of persons, in all kinds of circumstances, is almost a necessity. But, whatever may be your taste, so that it is innocent and healthy, cultivate it when you are young, and it will help you to resist the pressure of business when you are old. I do not want you to waste your time as students; you have, in fact, not an hour to spare. But healthy recreation wastes no time. No one can study profitably without a large allowance of total rest and change; and in those happy hours it is well to mount your hobby, if only a tricycle, and drive him fearlessly along, forgetting that there is such a thing as anatomy or surgery. You will be none the worse anatomists and surgeons in the long run."

We would gladly second Mr. Holmes' recommendations, but we do so with the feeling that in many parts of this country the struggle for existence is so keen, and the competition so bitter, that the doctor often has not the heart or the opportunity for diversion. It is all medicine or nothing. Besides, it must be admitted that popular feeling is against the doctor who does anything but attend strictly to business. We have even heard of a well-known practitioner who removed all the books, of which he had a large number, from his office, because he found his patients thought that perhaps he studied too much, and was not, therefore, "practical." The man in any calling who has to earn his own living must be a slave, and this is especially true of the doctor. Still, everyone can find a way to prevent his "slavery" from being ignoble or wearisome, and, after all, the physician knows life and enjoys it as much as anyone.

THE GOLDEN RULE IN CONSULTATIONS.

So much has been written regarding the unpleasant side of doctors' consultations that it is a relief to read of the experience which Sir Spencer Wells had, when a very young man, still in his medical pupilage under Mr. Marsden, of Leeds:

"One evening a farmer rode up to Mr. Marsden's, who was the nearest medical man, to beg him to go at once and see a girl who was very ill. Marsden was not at home, so I offered to go. The farmer hesitated, but he was very anxious, so he said, 'Well, lad, get on my horse, and I'll go on for our doctor, Mr. Braithwaite.' So I rode to a small farm-house near Chapeltown, and found a room full of people, and a girl insensible on the bed. I remember having her clothes loosened and opening a window, and, when she began to shiver, trying to make her swallow a little brandy-and-water. Then Braithwaite arrived, and very soon took me into another room, after saying to her mother, 'Give her two teaspoonfuls more of that brandy-and-water;' but as soon as we were alone he said: 'It was very wrong to give her brandy-and-water. It is the first stage of some eruptive fever. But a teaspoonful won't make any difference, and it will show that I did not differ from you. If I had,' he said, with a kind smile, 'perhaps they would not believe either of us.' There was something in this way of treating a junior—so much good feeling mixed up with so much knowledge of human nature—that I have many times since, when consulting with juniors, followed, or tried to follow, Braithwaite's example."

There is no provision in the Code that covers this ground, yet it is an unwritten law for every gentleman who is inclined from purely conscientious motives to

deal fairly with his brother. In this respect he is avoiding even the appearance of evil intent. The consulting physician has, as a rule, every advantage in his favor. The patient looks to him as one eminently qualified to give advice, and the family physician honors him by calling him to help in time of need. The consultant cannot be too careful of his words and acts. His duty is, of course, to help the patient. This is best done by strengthening the confidence of the patient in the family attendant. Nothing is more indiscreet than to cause the patient or his friends to believe that the line of treatment is to be altered as the result of the consultation. When a change in this repect is demanded, it can always be done in a manner that will not reflect on the skill or judgment of the physician in attendance. We speak advisedly when we say that in nine cases out of ten there is no immediate necessity for a radical change. When the latter is agreed upon, no harm is done in allowing it to be understood that the suggestion comes from the family attendant, who may ask the consultant to indorse him.

For instance, here is a case in point. The patient is suffering from great prostration, and the amount of stimulation is apparently not sufficient. The consultant suggests privately to his *confrère* that more alcohol is needed, and perhaps an increase in the dosage of digitalis. The case is urgent, and time is precious. Both physicians appear before the family. The consultant is the spokesman. The patient is seriously ill, so the friends are informed. It has been decided to continue the same line of treatment, in a vain hope, perhaps, of its good result. The diagnosis has been confirmed, and nothing more seems necessary to be said, when the family physician asks the consultant why it would not be proper to try the effect of even increasing the stimulant, and of adding to the number of "the drops." The consultant, of course, thinks it would be well, and it is well for all concerned. The patient gets the benefit of the change, the consultant and family physician conjointly get all the necessary credit, and medicine, in the eyes of the patient, at least, becomes an exact science. In our fight against ignorance and prejudice, it always behooves us to fly a clean flag at our masthead.

THE NEW YORK ACADEMY OF MEDICINE.

SUFFICIENT time has elapsed to show in a measure the results of the policy adopted by the New York Academy of Medicine in organizing into sections, and thus distributing its forces upon more special lines of work.

The question of the propriety and policy of this move, if not quite settled, is at least very nearly so. One or two of the sections only have been thinly attended, and these will probably be abandoned, and the work concentrated on those of which the need and usefulness have been clearly shown.

At all events, it is very apparent already that much good has been accomplished, and that the profession in this city was never more active or harmonious in its scientific work. The Academy is unquestionably doing a great deal for the profession of this city, and is constantly becoming an organization of greater prominence and helpfulness. Being now freed from debt, the possessor of an excellent building, a large working library and reading-room, and an energetic set of officers, there is every reason to predict for it a still more brilliant future.

DEATHS AMONG DOCTORS.

THE popular view that doctors are healthy and long-lived (and mainly because they do not take their own medicines) is not borne out by some recent investigations of Dr. William Ogle, Superintendent of the Statistical Department at the office of the Registrar-General of Great Britain. Dr. Ogle finds, first, that the average annual death-rate among medical men is greater than that in any other learned profession, and greater than the average death-rate among males over the age of twenty of all classes, being at the rate of 25.53 per 1,000; secondly, he finds that the death-rate among physicians has steadily increased from the year 1860–61, when it was 23.60 per 1,000, and 1870–71, when it was 24.98 per 1,000. This increase is confined, however, to physicians over the age of forty-five. The mortality under that age is not so great in proportion as formerly.

Regarding the death-rates among doctors as compared with that in other callings, Dr. Ogle's figures show that this rate is 15.93 in the clerical profession, 20.23 in the legal profession, and 19.90 in the scholastic profession, while in the medical profession it is, as has been stated, 25.53. The rate in the medical profession is thus not only higher than in any of the other learned professions, but also compares unfavorably with the rates in most other trades and industries, and is indeed "only exceeded by the rates in certain trades and occupations that are notoriously unhealthy."

An investigation was made as to the diseases of which medical men die, and comparative tables are given showing the deaths per 1,000,000 among doctors and among all other classes respectively. From this table we find that among 1,000,000 doctors 59 die of scarlet fever, while among 1,000,000 of other men over twenty years of age only 16 die annually of this disease. The comparative figures for other diseases are, for doctors and all other classes, respectively, as follows: typhus fever, 79, 38; diphtheria, 59, 14; enteric fever, 311, 238; malarial fever, 46, 11; erysipelas, 172, 136; alcoholism, 178, 130; gout, 291, 78; rheumatic affections, 251, 215; malignant disease, 879, 790; diabetes, 284, 108; diseases of the nervous system, 4,565, 4,268; diseases of the circulatory system, 4,142, 2,934; liver disease, 1,744, 744; other diseases of the digestive system, 973, 632; calculus, 86, 30; diseases of bladder and prostate, 634, 287; other diseases of the urinary system, 1,520, 665; suicide, 363, 238. In regard to phthisis and diseases of the respiratory organs alone do medical men compare favorably with other classes.

On the other hand, they are more subject to all the infective diseases, except small-pox, protection from the last being undoubtedly a tribute to the efficacy of vaccination. The death-rate from accidents is disproportionately high, as is also that from suicide. We are even told that the suicide-rate is increasing. Thus, the annual rate for the six years 1878–83 was, for the clergy, 128; the lawyers, 354; the doctors, 464. Medical men pre-

fer to use poison in committing suicide, and they especially favor prussic acid.

The excessive death-rate from liver diseases is attributed by Dr. Ogle to the neglect by medical men, as a body, of those wise rules of diet which they lay down for the guidance of their patients. The excess of mortality from liver diseases in the medical profession is 134 per cent., and from urinary diseases 128 per cent.; while, on the other hand, the excess from diseases of the organs of circulation is only forty-one per cent., and from diseases of the nervous system only seven per cent., above the rate among the general population. The excess in the death-rates from diabetes and malignant diseases is attributed to the probability that the diseases to which medical men succumb are more correctly diagnosed and more carefully stated in the death-certificates.

The application of the mortality-rate among English medical men to those of this country gives us some interesting figures. Assuming that there are 75,000 active practitioners of medicine in the United States, the annual loss by death would be 1,912. On the other hand, the annual increment by graduations from medical schools alone has in the past three years averaged 4,000 doctors. There is thus an absolute gain of 2,000 doctors to the medical profession of this country annually. Of course, our profession loses by invalidism and changes to other pursuits. But it also gains a large numerical reinforcement from European schools and from irregular practitioners.

MUTUAL PROTECTION AGAINST BLACKMAIL.

In an address recently delivered before the Chicago Medical Society, Dr. E. J. Doering stated that suits for malpractice against physicians were on the increase. To this the cold world might say that it was an evidence that doctors are getting less skilful, or more careless. The testimony of lawyers, however, as well as the records of court decisions, show that such is not the case, but that a very large proportion of the suits in question are based on the flimsiest evidence, and are really only a form of blackmail.

If the profession, therefore, is every year being more and more systematically blackmailed through the inauspicious conjunction of rascally patients and shyster lawyers, the question arises, What can be done to prevent it?

Dr. Doering proposes to form a society for mutual protection against blackmail. "My plan," he says, "is to form an association composed of about two or three hundred members of the regular profession, all of whom shall be of acknowledged ability, possessing a good moral character, and standing well in the community. Said association to employ one of the prominent law firms by the year, to furnish the members such legal advice as they may desire, and defend any suit arising against the members in the discharge of their professional duties. From correspondence with lawyers I find that an annual due of five dollars for a membership of two hundred would suffice to cover the expense. An initiation fee of five dollars would create a sufficient fund for court expenses.

Letters from a number of Chicago physicians, some of whom speak with the deep feeling and large enlightenment of practical malpractice-suit experience, are printed. Out of the twelve gentlemen who write all but two or three are heartily in favor of the project. Legal opinions from two well-known lawyers support also its practicability.

The objections given to the scheme are: that the fact of membership in such an association would prejudice a defendant before a jury; that some physicians might prefer to trust their cases only to counsel of their own selection; and, finally, that a certain small proportion of malpractice suits are justifiable, and an association should not be asked to support and defray the expenses that result from ignorant and careless work.

On the other hand, the existence of such an association would, it is believed, tend to lessen very greatly the attempts at blackmail, and if the objects of the Society were enlarged and made to include the protection of professional secrets and confidences reposed in the physician by his patients, there would not be, according to legal opinion, any bias created in the minds of a jury, through reason of membership in such society.

The general principle involved in Dr. Doering's scheme should have unqualified endorsement. Distasteful as anything like "trade-unionism" is to many, it is a necessity of the day. Says Dr. Asche: "While other professions are laboring, organizing, scheming, for their own advancement and for the establishment of their own power over society, ours has so completely forgotten its common interest in individual sacrifice, that to this day it remains, as has been well described for all practical purposes, a disorganized rabble."

The medical profession must unite for its own protection, and the more it works together in such way the greater harmony and good feeling, as well as material prosperity, will result.

The question of the propriety or need of organizing a special association for mutual protection against blackmail will be answered differently in different localities. In most cases, as in this city, the machinery of the county society can perhaps be used with sufficient effectiveness to accomplish the purpose.

OUR ENLARGED NUMBER.

No better evidence of the activity in medical work can be given than in the present issue of THE RECORD, whose columns are expanded into an enlarged number to give place to the great amount of valuable and fresh material which has crowded upon us. The large circulation of this journal tempts the leading authors throughout the country to send us their best productions, and while we labor under an embarrassment of riches we owe it to our readers to do the best in our power to give as well as receive. Notwithstanding our efforts to condense articles and economize space, our columns have become chronically overcrowded, forcing us not infrequently to decline the publication of papers which, under other circumstances, we should be glad to use if authors would make due allowance for time and opportunity. It may not be known to many of our readers to what extent our method of abstracting the pith of communications has been carried, as shown in the number of short items

which represent in many instances long papers. THE RECORD is already so large that it is difficult for our readers to digest its material in the intervals of its frequent issue, and no pains are spared to compress everything into the smallest possible space. With the best intentions in this direction we are still laboring against heavy odds, and ask authors and readers to be patient accordingly; our only comfort is that we are thus enabled to represent the best medical thought of the day in an attractive and available form.

News of the Week.

THE DOG AND HIS DAY.—Ten thousand dogs have been sacrificed to the hydrophobia scare in London.

A NEW MEDICAL SOCIETY, of a private character, meeting monthly, has been organized in the neighborhood of Yorkville, this city. The officers are: President, Dr. J. L. Morrell; Vice-President, Dr. W. A. Hume, and Secretary, Dr. Alpheus Freeman. It is called the Lenox Medical Society—why, we are not informed.

THE FIRST SUCCESSFUL EXCISION OF AN ENDOCRANIAL TUMOR was recently made by Dr. Durante, of Rome. The patient was a middle-aged woman, with a fusi-cellular sarcoma arising from the dura mater at the base of the left anterior lobe of the brain. The growth caused left exophthalmos, loss of sense of smell on the left side, and mental hebetude. The patient made a good recovery.

THE SIMS MEMORIAL FUND.—The following gentlemen have subscribed to the Sims Memorial Fund since our last published acknowledgment: A. E. Macdonald, M.D., New York City, $5; J. L. Morrell, M.D., New York City, $5; J. W. Howe, M.D., New York City, $25.

THE TREATMENT OF DIPHTHERIA BY THE GALVANO-CAUTERY is pronounced to be wonderfully effective by Dr. Bloebaum, of Coblenz. He has tried it both on animals and man. A single thorough cauterization causes a remarkable change in the character of the diseased surface.

LAPAROTOMY IN COLORADO.—The Denver *Medical Times* reports 34 abdominal sections performed by twelve Denver surgeons, with 18 deaths and 16 recoveries. Denver is still a little behind Birmingham.

THE IDEAL STATE OF THE PROFESSION, says the *Southern California Practitioner*, "would be with every physician a writer—at least, every one in active practice; for every man who takes the responsibility of human life upon his hands should neglect no means of educating himself for the conscientious and successful practice of his high calling, and the habit of thinking upon paper is possibly of all means the most productive in solid results." Our contemporary thus appears to believe that physicians should write as a matter of self-education, and from this point of view the further advice that he write on every-day matters is not bad. "A plain, carefully studied, carefully-reported case of phthisis, or of fracture of one of the large bones, will be of more profit to both writer and reader than an article upon morbus Addisonii or ligature of the common carotid." This may be true, but if every physician should begin to report his cases of phthisis and of fractures, medical literature would be somewhat prosaic and uninstructive, though of unutterable copiousness. There are very few phases of the troubles mentioned which have not been well and repeatedly described. We should say to the physician: Write for your own benefit as you will; the habit of recording cases leads to accuracy in thought and method, and often reveals to the physician unsuspected lapses in his knowledge and observation of the patient. When it comes to publishing, however, it must be borne in mind that cases are only worth presenting to the profession when they are novel and unique, and therefore interesting; when they illustrate some new or clear up some disputed point in the history of disease, or when they throw light upon the treatment.

THE POPULARITY OF COLD COMPRESSES IN BERLIN.—The Berlin correspondent of *The Therapeutic Gazette* writes: "Among the therapeutic measures in vogue in Germany there is none which attracts the attention of the American physicians so eminently as the water-compress. It is no fable that the 'compress,' as it is briefly called, is prescribed for every affection of the throat and lungs; for a clinical experience of nearly three months in the Charité and other hospitals convinced your correspondent that it is the first thing ordered in nearly every ailment of the respiratory tract. A piece of linen, being of the size of a napkin if intended for the throat, or of the size of a towel if intended for the lungs, is dipped into cold—not lukewarm—water, applied to the desired locality, and retained *in situ* by means of a woollen shawl or oil-silk, and renewed every half-hour. A poultice is never exhibited for these affections. The compress, as may be expected, has also become the routine treatment in every household, and is quite familiar to every mother and nurse. Your correspondent has taken especial pains in tracing the therapeutic results of this procedure—which, of course, is often accompanied by medicinal treatment—and feels highly gratified with the results observed. The value of this hydriatic procedure consists in the frequent renewals and prolonged application—extending often over two to three days—of a medium which not only abstracts the surplus of heat in the part, and by its secondary physiological action dilates the vessels of the integument, and thus relieves the engorged internal parts, but which also has an undeniable invigorating influence on the nervous system. It seems superfluous to add that strict individualization is, as in all hydriatic procedures, an indispensable requisite in the application of the cold compress. If in a patient the nervous energy is profoundly lowered, the application of cold would naturally only deepen the existing prostration and lessen the resistance against the disease. If, however, we deal simply with a loss of innervation, the usual incumbent of nearly every affection, the application of cold would prove a powerful stimulant to the nerve-centres, and alongside of the above-mentioned local effects of the application, materially fortify the chances of recovery."

THE DEATH OF LUCHSINGER, Professor of Physiology at the University of Zurich, is announced.

DR. W. E. MILBANK, of Albany, is appointed a member of the State Board of Health of New York, to fill the vacancy caused by the death of the late Dr. John Savage Delavan.

A Small Infant.—A Utah physician announces, with considerable pride (in *The Weekly Medical Review*), that his wife has presented him with a full-term female infant, weighing, with handkerchief and shawl, only two pounds and six ounces. The child is plump and healthy. We suspect that the doctor is a homœopath.

The Canadian View of It.—What we maintain is, that many of the sections, as at present organized, are controlled by men who evidently have not the confidence of the scientific workers in the United States, and are unknown abroad. At present, the prospect is that the *peers* of the men who organized the London Congress will be absent from the Washington meeting—the men who, in the United States, occupy positions in the medical world corresponding to those held by Gull, Jenner, Wilks, Erichsen, Paget, Fraser, Flower, and others who made the gathering of 1881 so brilliant. As well may we suppose that the British profession could have made that meeting the success it was without men of this stamp as that the American profession can do without the co-operation of such men as Agnew, Bigelow, Hamilton, Da Costa, Pepper, Mitchell, Loomis, Bowditch, Billings, Dalton, Martin, Leidy, Lusk, Thomas, Barker, Jacobi, Wood, Bartholow, and others who remain irreconcilable. Bombast and bluster will not cover up the disagreeable truth which is quite evident to outsiders, if not to Dr. Brodie, that, unless the present executive of the Congress patch up this unseemly quarrel, the meeting of next year is doomed to failure. The recent attempts to effect a compromise do not appear to have been successful, and we can assure Dr. Brodie that, if matters remain as they are, "the most perfect and elaborate arrangements" will avail but little to attract foreigners in the absence from the sections of such a number of the men who have made American medicine and surgery what it is to-day.—*Canada Medical Journal.*

The Committee on Public Health of the House of Representatives has been abolished. Sanitation is evidently not a Democratic science.

A Fatal Error in Diagnosis.—The principal surgeons of the Hospital St. Spiridon, of Jassy, a city of Moldavia—Drs. Russ, surgeon-in-chief, and Scali, assistant surgeon—lately committed the unpardonable blunder of mistaking a case of seven months' pregnancy for one of cysto-sarcoma of the right broad ligament. An operation was undertaken for the removal of the supposed tumor, when a well-developed fœtus was found of the age before stated, and which lived several hours. The details of this shocking affair are given in the *Gazetta Medicala Jassy*, a journal edited by members of the hospital staff. The mother died on the eighth day after the operation. The surgeons concerned in this case were condemned by the Superior Sanitary Council, with the recommendation to the proper authorities that their licenses be revoked. They, however, appealed to the courts, and, after a hearing, were acquitted.—*Boston Med. and Surg. Journal.*

The Kansas City Medical Index appears in a new crushed-strawberry cover and a generally improved and attractive make-up.

Indiana Medical Practice Act.—The quarterly report of the Illinois State Board of Health says: "An act regulating the practice of medicine, surgery, and obstetrics was passed by the last Legislature of Indiana, the same going into effect on July 23d. While the law is better than none, it is yet very defective in that it leaves the county clerks the judges of the reputable character of medical colleges, thus placing a most important trust in the hands of officials who, however honest they may be, cannot have the special acquirements necessary to judge correctly regarding a medical school's standing; and it is to be feared that this provision of the law will stimulate the graduation of incompetent individuals."

An Alleged Specific for Diphtheria was recently announced by a Mr. Greathead, of Melbourne, Australia. Mr. Greathead revealed the secret of his remedy (which was simply sulphuric acid), and has appealed to the Colonial Legislature, and asked for an investigation of it by a committee of that body.

The Medical Profession in Congress, and in the British Parliament.—The new Congressional Directory gives the names of the physicians who are members of the present House of Representatives. The list comprises Drs. W. H. Cole and F. T. Shaw, of Maryland; Drs. I. M. Evans and L. E. Atkinson, of Pennsylvania; Dr. W. H. Ellsberry, of Ohio; Dr. John Swinburne, of New York; Dr. R. T. Davis, of Massachusetts; Dr. A. M Dockery, of Missouri; and Dr. J. H. Gallinger, of New Hampshire. The Medical Register and Directory of Great Britain gives a list of sixteen medical men now in Parliament. Some of these, says *The Medical Press*, are *recubantes in nominis umbrâ.* It appears that only two of these doctors are Conservatives, while ten are Liberals and four Nationalists.

The Insane and Defective Classes of New York.—The number of insane persons in the charitable institutions of the State, October 1, 1885, was 12,707, being an increase of nearly six hundred over the previous year. The State and other asylums are full, and there is an urgent demand for further accommodations. New York has 4,040 insane persons, and Kings County 1,350. The average number of blind in the State institutions is 373. The deaf and dumb pupils number 1,289; an increase over last year of 38. The number of patients in the hospitals is 3,397. The number of dispensaries is 43; of inmates of poor-houses, 70,501; and of outdoor paupers, 55,590.

The Ohio State Sanitary Association held its third annual meeting at Columbus, on February 24th and 25th. This is a volunteer sanitary organization, which is doing its best to make good the absence of a State board of health. The intelligent legislators of Ohio refuse to see the need of this, although thirty-one sister States now have health boards. Professor Edward Orton is president of the Sanitary Association; Dr. R. Harvey Reed, secretary.

Always Ahead.—American women menstruate earlier and cease to menstruate later than the women of the Old World, according to Dr. James R. Chadwick.

Reviews and Notices.

CUTANEOUS MEMORANDA. By HENRY G. PIFFARD, A.M., M.D., Clinical Professor of Dermatology, University of the City of New York; Consulting Surgeon to the Charity Hospital, and to the Bureau of Out-door Relief, Bellevue Hospital. Third Edition. New York: William Wood & Co. 1885.

THIS book is one of the series of Wood's Pocket Manuals. It is an excellent little work, written in a clear style, and illustrated by a number of well-executed wood-*cuts*. There are many large works on diseases of the skin which contain much less information of practical use to the general practitioner than does this neat little volume.

MANUAL DE TECHNIQUE DES AUTOPSIES. Par MM. BOURNEVILLE et P. BRICON. Paris: A. Delahaye & E. Lecrosnier. 1885.

THIS little book is meant to serve as a guide to students and practitioners in the performance of post-mortem examinations, and it admirably fulfils its purpose. There are a few illustrations, which have the merit, that wood-cut representations of anatomical preparations do not always possess, of distinctness.

DIE DIPHTHERITISCHE ALLGEMEIN-ERKRANKUNG UND DEREN BEHANDLUNG. Von DR. ED. SCHOTLIN. Berlin: A. Hirschwald. 1885.

THE author regards diphtheria as of a double character, existing as either a local disease, affecting only the external organs, and perhaps running its course without manifesting any general symptoms, or a general disease with local manifestations. In this monograph the latter form only is under consideration. The notes of a number of cases with local manifestations in various organs, both internal and external, are given in full, and the concluding chapters are devoted to the subjects of prognosis and treatment.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 22, 1886.

DANIEL LEWIS, M.D., PRESIDENT, IN THE CHAIR.

DR. JOHN C. PETERS read a paper on

THE PRESENT AND FUTURE WATER-SUPPLIES OF NEW YORK,

in which he set forth their deficiencies and dangers, by first describing the location and dimensions of the proposed Quaker Bridge Dam, the estimated amount of money which it will cost, and the length of time required for its construction. Further, the project of ponding a series of lakes in the region of the Mahopac, where the water can be stored subject to draught during low water in the summer season.

There is no doubt that the Croton supply is the purest supplied to any city, but before it reaches the city it becomes very much changed by exposure to unsanitary conditions along the course of the river, more especially along the east branch. The promise, however, has been made that this portion shall be thoroughly sewered. By proper protection against sewerage, the water-supply of New York may be the best in the world.

The Committee on Hygiene are unanimously in favor of the Quaker Bridge Dam, because of the immense increased supply which it will afford; and that the ponding of water and allowing it to run over the Croton Dam would not be best, because of the very great loss of water which would at times occur.

Dr. Peters then read from records furnished by the Board of Health, in which the results of special inspections were given, showing that the filth from slaughter-houses, dairy- and horse-stables, privies (1,879 in number), etc., are constantly flowing into the Croton River, in astounding quantity.

The correction of this tremendous evil is within reach of existing laws, and these nuisances should be swept away without delay.

The conclusions of the Committee on Hygiene were, that the Quaker Bridge Dam is unobjectionable from a hygienic standpoint; that the Sodom Dam should be constructed at once to furnish a quick water-supply; that means should be taken to improve the quality of the water; that asystem of sewers should be constructed to receive the sewerage from the Croton water-shed; that a safety strip of land one-fourth of a mile wide, to preserve the purity of the Croton River, should be bought.

DR. L. JOHNSON discussed the paper and directed attention specially to the fact that, in proportion to the shallowness of lakes is the impurity of the water, illustrated by records of dredging Seneca, Cayuga, and other lakes for shells. Vegetable matter is a growth of shallow water and high temperature, and he believed that stagnant water was unhealthy by reason of the presence of low vegetable organisms.

DR. PETERS suggested the appointment of a committee to appeal to the Croton Water Department, the Aqueduct Department, and to the Board of Health. The question was subsequently referred to the Committee on Hygiene, after the adoption of resolutions.

DR. JOSEPH A. ANDREWS then read a paper

ON CONTAGIOUS EYE DISEASES,

the object of which was not so much to propose any opinions which were absolutely new, as to refer to some views which have been already advanced by others, to support them by additional evidence, and apply them to a number of diversified facts in connection with simple catarrh, trachoma, diphtheritic conjunctivitis, and the ophthalmia of the new-born.

The paper was discussed by DR. ROOSA, who said there was no end of children who recovered from contagious eye diseases *while* in the asylums, but by the proposed law the breaking out of epidemics can be prevented, and the general condition of the eyes of all the children can be greatly improved. He does not approve of the use of nitrate of silver in the acute stage of purulent ophthalmia, but relies on cold applications and thorough cleanliness.

DR. DERBY continued the discussion and supplemented reports already made, in which it appeared that fifty per cent. of the inmates were suffering from contagious eye diseases.

DR. O. D. POMEROY referred to the fact that some children will never recover from their chronic eye disease except they are sent out of large institutions, and then they recover spontaneously. He advocated strict quarantine, although it is a difficult question to deal with.

DR. MITTENDORF spoke of the danger which the child carries home when removed from the asylum.

DR. WEBSTER spoke of the possibility of contagion without contact. He had never seen but one case which seemed to illustrate this possibility.

DR. LESZYNSKY referred to the fact that many of the children suffer from leucorrhœa in one public institution, and in a number of instances it seemed evident that the ophthalmia originated in this affection.

DR. WEEKS believed that it had been proved positively that gonorrhœoic ophthalmia is due to a micro-organism, and that what will kill the coccus will cure this ophthalmia.

THE PRESIDENT announced the death of Drs. H. Assenheimer and Alfred C. Post, after which the Society adjourned.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 18, 1886.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE Corresponding Secretary, DR. WESLEY M. CARPENTER, reported the death of their highly esteemed and Honorary Fellow,

ALFRED C. POST, M.D., LL.D.,

and the President was empowered to appoint a committee to prepare memorial resolutions.

DR. H. D. CHAPIN then read a paper (see p. 230) on

RHEUMATISM IN EARLY LIFE.

The discussion was opened by DR. JOHN C. PETERS, who agreed, in the main, with the views set forth by the author of the paper. It was the indistinct forms of rheumatism that lay the foundation of other diseases to which he had paid attention more especially, unattended with any acute joint affection; or, at least, the latter was secondary. Pains in the muscles, soreness on moving, stiffness on bending or stooping, etc., were the most common precursors of the more serious manifestations of the disease. Endocarditis could be recognized long before there was pain or palpitation, and so, also, did recovery take place perfectly so far as the general health was concerned; but relapses were common in the course of one or two years, and finally the patients die with cardiac hypertrophy and valvular disease.

He had seen several cases in which chorea and rheumatism were associated. Dr. Peters also believed in rheumatism of the mucous membranes; rheumatic affection of the muscles of the throat, indicated by pain in swallowing and redness; pleurisy and also pneumonia, rheumatic in character; and, with Todd and Murchison, maintained that the lithic acid diathesis was at the bottom of a number of acute catarrhal affections. He also believed that a large number of cases of nephritis were rheumatic in nature. He prefers the potash to the soda salts in its treatment. Tepid alkaline (potash) baths, rubbing the children with finely-powdered chalk in cases of excessive sweating, gave great relief. Of special value was the phosphate of soda, and it was the only soda salt he used. The debility attending rheumatism was best combated with tartrate of iron and potash.

DR. J. LEWIS SMITH gave a *résumé* of 73 cases observed within the last fifteen years. He recognized *two* particular causes of the disease—first, taking cold, and second, scarlet fever. Hereditary predisposition was present more frequently, he thought, than was generally supposed. In 18 of the 73 cases, one or both parents had suffered from rheumatism. The disease occurs rarely under the age of two years; undoubted cases, however, occur as early as *six months* of age. In most cases it is a mild affection when it occurs in children. It usually begins in the joints of the lower extremities and extends upward, attacking corresponding joints on the two sides. It is very seldom so painful as in the adult, and is not attended by so much swelling and redness, and may be regarded as "growing pains."

Under proper treatment the attacks are, as a rule, of short duration, and the pain and swelling disappear within a week. But, however mild the attack, it is a dangerous malady on account of cardiac complications. If the endocardium escapes during the first week, and proper measures are employed, it will not probably become inflamed subsequently.

In 46 of the 73 cases the mitral regurgitant bruit only was present, and when other murmurs were heard, the mitral was the most distinct. Aortic murmurs were present only occasionally. Pericarditis is much more rare than endocarditis; yet it occurs in all the forms of serous inflammation. It is more frequently overlooked than endocarditis by the general practitioner. He had not had any experience in rheumatic meningitis or pleurisy.

Of 68 cases of chorea that had been under his observation, 26 of the patients had had rheumatism, one or more attacks; usually the rheumatism preceded the chorea, but occasionally the chorea occurred as early as the rheumatism. Of the remaining 42, which gave no history of rheumatism, in *eleven* the parents, one or both, had had rheumatism, and in one other case a sister had had rheumatism.

Dr. Smith wished to emphasize the importance of early diagnosis, and the use of appropriate remedies as early as possible. He uses the salicylate of soda, and was inclined to the opinion that it had been given in too small doses. Given in doses of ten or fifteen grains to a child four or five years of age, on the first day, he believed would prevent cardiac complications. But if the case has been going on for a week or more, the remedy does not act as well as when given early in the disease.

He does not accept the theory that lactic acid produced by indigestion is a cause of rheumatism, because in infancy, when lactic acid formation is most abundant, rheumatism is very rare, while in childhood, when lactic acid fermentation does not occur with anything like the frequency with which it does in infancy, the disease is exceedingly frequent.

DR. MALCOLM MCLEAN believed that in every well-marked case of rheumatism occurring in childhood heredity could be determined as the cause of the disease. He also believed that the so-called growing pains were invariably rheumatic. He had noticed one important clinical feature, namely, accelerated action of the heart, continuing for many years after a rheumatic attack, without evidence of cardiac complication.

DR. L. EMMET HOLT believed that as a constitutional affection, which is the basis of a number of disorders, rheumatism is a common affection. The local manifestations, as pain and swelling of the joints, were rare in children. He thought that great emphasis should be laid on the question of heredity, and gave statistics from one of the London hospitals, which showed how large a percentage of the cases illustrated this predisposing cause. He also believed that there was a close connection between quinsy and rheumatism, but had not seen the same in follicular tonsillitis.

DR. S. KETCH spoke of the rheumatoid origin of some of the more chronic joint diseases, and of the differential diagnosis between tubercular and rheumatoid joint affections, with reference to which the literature was very scant.

THE PRESIDENT said that, up to 1880 nearly all the literature on the point mentioned by Dr. Ketch could be found in a book written by Montcarvo, of Buenos Ayres, who refers to an article written by an American, Dr. Mitchell, and published in the *American Journal of the Medical Sciences* in 1831, where, thirty-seven years before Charcot described arthropathies, the same disease was described.

With reference to congenital heart-disease, but few of these patients live very long. Heart-disease, under six or seven years, recurs very frequently, and there are only two causes: first, sepsis (not frequent), and second, rheumatism. If, therefore, disease of the left heart is found in children six, seven, or eight years of age, it must be the result of rheumatism, whether it was diagnosticated or not; and, as a rule, the younger the child the less developed will be the local manifestation of the rheumatic affection.

As to the growing pains, he would criticise Dr. McLean's statement that they are always rheumatic. They are frequently acute rheumatism; but there are two other causes of joint pains in children. First, neuralgic pains about the joints, and not unfrequently complicated with œdematous swelling. When we find painful joints with swelling the diagnosis of acute rheumatism is easily made, but when we find pain on gentle pressure *about*

the joint and the swelling is *about* the joint and not in the joint, it is not to be classed as rheumatism. In the other class of cases, the children that are growing fast have real growing pain. The long bones grow from both epiphyses, and when rapid there is unusual development, which means hyperæmia, and physiological hyperæmia is very apt to turn into inflammation. He did not in these cases refer to the rachitic diathesis at all. When there is such a condition, then the pain is in the epiphyses, and, as a rule, recovery ensues after a time; but sometimes suppuration occurs with diastasis. In such cases of rapid growth the pain is characteristic, lasts for a good length of time, and is real growing pain.

There is another peculiarity about growing pains. Sometimes it is said that children that have been sick with typhoid fever, scarlet fever, etc., have grown very fast while they were in bed. They do grow, and the number of the cases of so-called rheumatism in scarlet fever and typhoid fever, are really cases of growing epiphyses, where the pain is quite local. Not all are such cases, but there are such, and the two conditions have a certain amount of connection with each other.

Dr. J. Lewis Smith said there might be endocarditis without doing sufficient injury to the valves to give rise to a murmur. This would explain the accelerated heart action referred to by Dr. McLean.

The President said that undoubtedly a valvular murmur might disappear within a short time, and remain absent for many years. It might disappear within half a day or in a few days, and because it was not endocardial but simply rheumatic. There is a connection between articular and muscular rheumatism, and not unfrequently what is regarded as endocarditis is nothing more than rheumatism of the heart-muscle which will pass away very quickly sometimes, and afterward endocarditis may develop in these cases, and remain for a long time.

There are cases of endocarditis with murmur, in which the murmur disappears after years, because of cardiac compensation; the heart, however, is not normal, but is enlarged, and the compensatory development is usually best balanced at about the age of puberty in boys, in whom this disappearance of the murmur occurs most frequently.

There are many cases of endocarditis in which there is no valvular disease, but the large majority of cases are known by the valvular affection. There is one kind of endocarditis in which there is no valvular murmur, and that is *ulcerative endocarditis*. If the valves are affected the deposits are not upon the top of the valves, but at their insertion, which explains the absence of the murmur.

Dr. Sell mentioned a case in which, during an attack of rheumatism, decided evidences of endocarditis developed, numerous murmurs; recovery occurred, the murmurs were retained for a long time, the patient also had chorea; but later in life married, became the mother of eight children, and at present there is not the least trace of cardiac disease.

The Academy then adjourned.

SECTION IN PRACTICE OF MEDICINE.

Stated Meeting, January 19, 1886.

Alfred L. Loomis, M.D., LL.D., Chairman.

Dr. George L. Peabody read a paper (see p. 235) on

THE SIZE OF THE HEART IN CHRONIC DIFFUSE NEPHRITIS.

Dr. A. Jacobi was invited to open the discussion, and said that the exposition which Dr. Peabody had given of his own experience compared very favorably with that given by most Europeans. Not long ago he read a paper by Schatz, in which the writer directed attention to the fact that although general hypertrophy of the heart was very common, he had been surprised at the additional fact that in a large number of cases it was the right heart that was affected, and not the left. It was a peculiar fact, however, in Schatz' cases, that the observations were not very carefully made, because he had omitted every allusion to the condition of the lungs, which probably would have given some explanation of the hypertrophy of the right heart.

Hypertrophy of the heart in nephritis is seen almost exclusively in chronic cases, but there are those which Dr. Peabody, perhaps, has not seen in hospital, but has seen in private practice, in which hypertrophy of the heart is an accompaniment of acute Bright's disease. Thus it appears that it is not necessary for a nephritis to be chronic in character in order to be accompanied by increased weight of the heart. In many of these cases its occurrence is explained in the same way as when found associated with chronic nephritis; that is, a large number are undoubtedly the result of myocarditis, and it is, perhaps, not so much the result of nephritis as it is merely co-ordinate with acute nephritis. Dr. Jacobi believed that in a number of cases, syphilitic, alcoholic, and otherwise, that the condition of the heart and kidney might be explained in the same way; that the heart disease is not the result of nephritis, but that both exist as the result of a general cause.

Dr. Francis Delafield continued the discussion, and said that the question of the condition of the left ventricle of the heart with chronic Bright's disease seemed to him to be an important matter, not only in itself, but on account of the bearing it had on the question of the condition of the vascular system in cases of chronic Bright's disease. So far as figures went, his experience was a good deal like that given by Dr. Peabody, that while hypertrophy of the left ventricle is found in some cases of chronic Bright's disease, it is not by any means a constant accompaniment. The only figures which he had represented the autopsies in cases of chronic Bright's disease which he made between 1866 and 1876. Of these there were 234 of which he was able to give a fair clinical history, and in all of them the kidneys and heart were examined, and in only 34 was there well-marked hypertrophy of the left ventricle. Of these 34 cases the atrophied kidney was present in 25, and the large white kidney in 9.

On the other hand, the number of cases was large in which valvular lesions of the heart, representing endocarditis, were associated with chronic Bright's disease. There were eighty-nine cases in which chronic endocarditis accompanied chronic diffuse nephritis.

There is always a certain amount of difficulty in comparing the experience of different places and countries. Although we have diseases which bear the same name, and which resemble each other closely, yet climate, race, and social conditions certainly make a great difference in the way in which these diseases present themselves to us. So far, however, as we can judge, hypertrophy of the left ventricle with chronic Bright's disease is not so common in New York as it is in some other places.

It had always seemed to him that in connection with the question of the relation between hypertrophy of the left ventricle and chronic Bright's disease, it was always necessary to take into consideration the condition of the arteries throughout the body. It had seemed to him doubtful, indeed, when hypertrophy was present, that it should be looked upon as the direct result of the kidney lesion, but rather that it is the result of conditions complicating the kidney affection, conditions of the arteries which may occur with or without kidney disease; and also that the kidney disease may occur without these changes affecting the arteries.

The morbid conditions of the arteries seemed to be of twofold character, and it was a matter of doubt as to which was the most important. One is the actual structural disease of the walls of the arteries, practically a chronic endarteritis, whether we call it that or call it

arterio-capillary fibrosis, or anything else. The second disturbance is the contraction of the walls of the smaller arteries, and perhaps of the capillaries, occurring from time to time for shorter or longer periods.

These two morbid conditions may occur separately or together. When they are associated the best possible conditions exist for the production of hypertrophy of the left ventricle, and the association of these two conditions is frequently found with chronic Bright's disease; it had seemed to him to be the explanation of the hypertrophy of the left ventricle when it does occur.

For that reason he could suppose that the difference between our experience and that of observers in other countries was not a difference in the character of the nephritis, as probably the kidney affection was the same, but that it was because there was a difference in the frequency with which the chronic endarteritis and the spasmodic contraction of the small arteries was associated with the nephritis. These conditions of the vascular system, although not unknown to us, do not seem to be as common here as in some other countries.

Dr. Beverley Robinson presented a tabular statement of the cases of chronic Bright's disease in which autopsies had been made at St. Luke's Hospital, Dr. Satterthwaite and Dr. Ferguson, curators. The table had been prepared by Dr. Tiemann, house physician, and was an abstract of necropsies, in which lesions indicative of chronic nephritis were observed with special reference to the size of the heart. In 63 of the cases the heart was enlarged; in 5 of these there was cirrhosis of the liver; in 2, aneurism of the aorta; in 16 there was distinct valvular incompetency; in 24, pulmonary disease, in 17 of which it was secondary, and in 7 primary.

In 11 cases the size of the heart was normal; in 2 of these there was cirrhosis of the liver; and in 3 pulmonary disease, 1 secondary and 2 primary. In 7 cases the heart was small; in 1 of these there was cirrhosis of the liver; in 1 aneurism of the aorta; and in 3 pulmonary disease, 2 secondary and 1 primary.

In 81 cases, therefore, of chronic Bright's disease, in the cases usually described as chronic diffuse nephritis, about three-fourths showed decided enlargement of the heart. In more than one-eighth of the cases the heart was normal, and in more than one-eleventh the heart was diminished in size. In the 63 cases of enlarged heart, 16 were affected with valvular incompetency (primary or secondary, was not determined), 5 with cirrhosis of the liver, and 7 with pulmonary affections, which were presumably primary or concomitant. It was fair to assume that three-fourths of the 63 cases of enlargement of the heart were connected solely with, or dependent on, or resulting from, the chronic renal disease. This would make about forty-five cases in all out of eighty-one cases referred to and in which the post-mortem examination of the heart was recorded, or somewhat more than one-half of the total number, where the enlargement of the heart was certainly more or less occasioned by previous or concomitant chronic kidney disease. Of course, in this analysis, all determining influences with reference to enlargement of the heart proceeding from occupation, habit, mode of life, blood condition, general disease, and nervous affections, etc., were not at all estimated. In more than one-sixth of the total number of cases the heart was normal or reduced in size, and despite the complications of cirrhosis of the liver and pulmonary disease, either primary, concomitant, or doubtful.

Dr. Wesley M. Carpenter alluded to the peculiar pathological fact of the absence of cardiac hypertrophy with amyloid kidney, and yet the amyloid kidney rarely, if ever, occurs independently of chronic diffuse nephritis, the morbid condition which at one time was believed to bear the relation of cause to hypertrophy of the left heart.

With regard to the factors to be taken into consideration in determining the existence of cardiac hypertrophy, Dr. Peabody had mentioned, with others, the size and general development of the body. On this point it might be interesting to refer to observations made by Dr. Alonzo Clark, who reached the conclusion that the size of the heart was not materially affected by the size of the adult, unless the distance between the tips of the shoulders was greater than the average.

The influence of occupation on the size of the heart, also, should not be lost sight of, as it was generally conceded by those skilled in physical diagnosis that in male adults who have followed physically laborious pursuits the area of cardiac dulness is almost invariably increased.

When all the sources of error are considered in estimating the existence of cardiac hypertrophy in cases of chronic diffuse nephritis, the conditions at once become so complicated that the observer is very liable to look toward the arterio-capillary system referred to by Dr. Delafield, or to some other general condition, for their explanation.

The Chairman said he had had the impression for a long time that Dr. Bright struck the key-note in this entire matter. Bright, in his earlier paper, directed attention to the fact that there was enlargement of the heart in a large proportion of cases of chronic renal disease, and made the statement that he believed it to be due to the condition of the blood, which either influenced the heart, causing an irritable action, or so acted upon the capillary vessels, or at least the smaller arterial branches, that greater force was required to drive the blood through the minute ramifications of the arterial system.

It seemed to him that the question of hypertrophy of the heart in Bright's disease could not be decided by post-mortem results, that if decided by anything it must be by the character of the pulse; it was a question altogether of arterial pressure. It was very well known that in a certain percentage of cases of chronic Bright's disease there is a continuous morbid arterial pressure, and that in all cases of acute Bright's disease there is temporary high arterial tension; that a patient with acute Bright's disease at the time when he is on the verge of a convulsion gives evidence of arterial tension, and after the disease has progressed a little this arterial tension is no longer present, because there are rapid blood changes, consisting of a deficiency in the nutritive condition of the blood, associated with great disturbance of the vasomotor system; that the heart has no longer, in its degenerated, debilitated condition, power to give high arterial pressure. Under these circumstances dilatation is liable to occur, affecting both ventricles, and when post-mortem examination is made it is difficult to determine whether it does or does not exist, unless more careful examinations are made than have yet been reported with regard to the condition of the heart in these cases. It is the degeneration which takes place that allows of rapid dilatation and great loss of muscular power in these acute cases. It was well known that frequently within a few weeks, in cases of scarlatinal nephritis, evidences of extensive cardiac dilatation were found, and dropsy developed, which sometimes depended on the condition of the heart and not upon the condition of the kidneys.

It seemed to him that we must break away from the old idea that in the kidneys were to be found changes which would explain all those conditions which were grouped under the term uræmia; that there was, strictly speaking, no such thing as uræmia; but that this change in the nutritive quality of the blood produced changes in the arterioles, and in all of the organs, and Bright's disease became a general disease; and that wherever we met with this condition there was a diseased process going on, affecting the vascular tissues of the body, and hence necessarily the glandular.

The statistics presented by Dr. Peabody would seem to point in this direction, for there was no hypertrophy of the heart in a certain proportion of the cases, and

probably because there was no condition of the arterial system to give rise to it.

Dr. Peabody, in closing the discussion, said that the association of amyloid degeneration of the kidney with chronic diffuse nephritis and the absence of cardiac hypertrophy was perhaps susceptible of an explanation. Undoubtedly the cause of the hypertrophy of the heart was an increased arterial tension, although it was not the purpose of his paper to enter into a discussion of the causes of cardiac hypertrophy. One evidence, however, that such was the fact was that long before we get the clinical evidence of hypertrophy of the heart the evidence of increased arterial tension could be easily obtained, and after it had existed for a considerable length of time, then there was evidence of cardiac hypertrophy. But in those forms of chronic Bright's disease in which the arterial tension was lowered by general œdema, such as usually shows itself with well-marked amyloid disease, the tension necessarily relaxes, and perhaps cardiac hypertrophy might disappear. Possibly this might explain the peculiar association of these conditions.

Without attempting to discuss the cause of cardiac hypertrophy, he simply wished to lay before the Section certain factors which showed that it was less common with chronic diffuse nephritis than was usually supposed, and that the common clinical teaching that the presence or absence of hypertrophy of the left ventricle would enable the observer to diagnosticate the presence or absence of chronic Bright's disease was mischievous, as it had no substantial basis upon which to rest.

He agreed with the Chairman that we could with propriety go back to the so-called chemical theory advanced by Dr. Bright, because it had been abundantly demonstrated that it was impossible by partial arrest of the arterial blood in the kidneys to produce hypertrophy of the left ventricle, for the reason that it had been distinctly proved that by ligating both renal arteries the arterial tension was not raised for any considerable length of time; it is temporarily elevated, but it immediately relaxes, and is not sufficiently prolonged in any kidney disease to produce hypertrophy of the left ventricle.

The topic for general discussion was the question:

ARE THE ANTIPYRETIC MEASURES AT PRESENT EMPLOYED IN ACUTE DISEASE USEFUL AND SAFE?

The discussion was opened by Dr. A. A. Smith (see p. 237).

Dr. A. B. Ball continued the discussion, and said that he should take it for granted that the reduction of temperature was desirable in very many cases, and, if means could be used to effect this end safely, that it would be useful. He then gave statistics, derived from Bellevue Hospital and St. Luke's Hospital, with reference to the use of antipyrin, where it had been administered in doses varying from fifteen to twenty grains, and repeated at proper intervals until the maximum quantity of ninety grains had been administered, in the treatment of typhoid fever particularly. The unfavorable effects of this remedy in the way of nausea and vomiting, as reported by some observers abroad, and also by some in this country, he thought had been due to the use of larger doses of the drug than was necessary. His conviction was that only small doses were required, and, besides, that it was not necessary to reduce the temperature to the normal, but to between 101° F. and 102° F. was sufficient, as in most instances it would continue to fall after this point had been reached. It could be administered by the mouth, by the rectum, or hypodermically. It was generally given by the mouth. When administered hypodermically it might excite considerable inflammatory action, and even abscesses, although the latter occurrence was rare. One advantage of the hypodermic use was the rapidity of its action. Sweating is usually produced; the temperature may fall without the appearance of perspiration. Sometimes the sweating is exceedingly profuse. The effect upon the pulse is not marked. The effect upon the tongue had been remarkable, changing it from the dry to the moist.

The most common drawback to the administration of antipyrin was the production of nausea and vomiting, which appeared in seven out of the twenty cases in Bellevue Hospital, and in two out of the fourteen in St. Luke's Hospital. In none of these cases, however, was it a serious matter. Chills occurred in St. Luke's Hospital in three cases, but in neither instance were they of a serious character. Collapse had not occurred in any of his cases, as had been noted by some observers, and perhaps it had been warded off by the administration of a small quantity of whiskey with the antipyrin.

An eruption had appeared which resembled very much the appearance of measles. A great variety of eruptions had been reported, and it might even become actually petechial. There was no evidence that it exerted any detrimental influence on the course of the fever.

He had always been very skeptical with reference to the use of antipyretics. His own experience in the use of the cold bath had never been entirely satisfactory. But with regard to the use of antipyrin, he had been abundantly satisfied that the patients went through their sickness with less disturbance, with less delirium, and with more quiet sleep than they would have done without the use of the drug.

His experience in the use of kairin had been unfavorable, and he had abandoned it.

Dr. Kinnicutt said that, in discussing the antipyretic powers of the so-called aromatic group (derivatives of benzol), two important points suggested themselves for consideration.

Whether the members of this group possessed certain essentials of true antipyretics, viz., the power to restrain or diminish increased tissue metamorphosis or organic combustion; secondly, whether their use was unattended with injurious effects upon the economy.

We were now in possession of a considerable number of careful observations, which seemed to demonstrate that during the use of kairin, thallin, hydrochinon, antipyrin, and other members of this group, the excretion of carbonic acid and urea was markedly diminished; in other words, that a certain control was exercised by these drugs over increased tissue metamorphosis. The exact method of this action had not yet been demonstrated. From experiments on animals with kairin it had been suggested that, being an easily oxydizable body, it withdrew oxygen from the hæmoglobin, transforming it into methæmoglobin, thereby lowering the oxidation in the tissues. On the other hand, antipyrin had seemingly little effect upon the hæmoglobin.

Although the members of this group, in all probability, possessed little power of controlling specific disease processes, nevertheless it was an interesting fact that the group furnished a large number of our most powerful antiseptics. In attempting to determine the second point, we must rely partly upon such experimental investigations as have been made on animals up to the present time, and partly upon clinical experience.

Morokhovez, of Moscow, had investigated the action of kairin on dogs. In large doses of one gramme injected into the saphenous vein or duodenum, the arterial blood became dark brown; spectroscopic examination showed the presence of methæmoglobin.

Intense dyspnœa followed, with marked lowering of arterial tension, and weakness of the pulse. These effects would lead us to use this drug with great caution in cases of pulmonary affection, heart disease, and anæmia. Clinical experience also, it seemed to him, should lead us to discard this agent in our therapeutics. In his own experience, rigors and chills, depression, and oftentimes partial collapse, followed its use. The same objections did not apply to thallin. The short duration of its effects, however, made it a less desirable antipyretic agent than antipyrin.

He had largely made use of hydrochinon and antipy-

rin, both in hospital and private practice. They appeared to act by dilating the cutaneous vessels, by increasing loss of heat, by diminishing organic combustion. Intra-arterial pressure was not appreciably modified by them, the frequency of the pulse diminished proportionally with the fall in temperature, the respiration was slightly, if at all, affected. Their utility in the treatment of continuously high temperatures, particularly in the specific fevers, must be recognized and greatly appreciated, he thought, by all who had had much experience in their use. He had rarely observed gastric disturbance, and never collapse, produced by either hydrochinon or antipyrin. That a certain amount of temporary depression might be caused by an incautious use of them, he was disposed to admit; at the same time, he believed it could always be successfully combated. The striking improvement in the general condition of the patient during their use, their control of many of the grave symptoms incident to high temperatures, gave them a place, it seemed to him, among the most important therapeutic discoveries of the present time.

In conclusion, he would add a word in regard to the proper doses of hydrochinon, as it was a drug little known in this country.

In a paper published by him last May he had stated his experience on this point. He would read the following extract from the paper referred to:

"Fifteen and twenty grains were the standard single doses adopted. A marked reduction of the temperature was obtained, *without exception*, in all the cases after each administration of the above dose. By repeated observations it was ascertained that after a single dose the temperature begins to fall, as a rule, within fifteen minutes. The minimum level is reached in two to two and a half hours; the temperature then again gradually rises, during another hour to two hours, to its former height. The degree of reduction was observed to vary somewhat, being dependent, apparently, rather upon individual idiosyncrasies than upon the nature of the disease. The minimum fall obtained was 1.5° F., the maximum 5.2° F. In cases where there was a tendency to a continuously high temperature, three or four single doses were given in the course of twenty-four hours, with the effect of maintaining the temperature at a moderate level."

Dr. R. C. M. Page said that he had but little to add to the discussion on the subject of antipyretics in the treatment of acute diseases. During the month of June, 1882, he visited the General Hospital (Krankenhaus, 2,000 beds) in Hamburg, Germany, with special reference to the fever wards. He was informed that they had abandoned quinine as an antipyretic in the treatment of typhoid fever, since it did no good, but, on the contrary, aggravated cerebral symptoms. Antipyrin and the like had not then become known. The water-bath was inconvenient, and treatment by means of the wet pack was tedious. But typhoid fever patients were simply placed on water-beds, each of which communicated at one end (head) with two tubes provided with stop-cocks, one for hot and the other for cold water. At the other end (foot) of the bed was a drain-tube with a stop-cock for letting off the water. A thermometer was attached to each bed so that the temperature could be regulated with precision to any degree required, by simply turning on hot or cold water, as the case might be. On such beds, also, the chances of acquiring bed-sores were reduced to a minimum. Death in the hospital from typhoid fever was exceptional, and then it occurred chiefly among those who, unfortunately, were brought there late in the course of the disease, and were suffering from previous want of care and attention.

Dr. Peabody said, with reference to the production of abscess by the hypodermic injection of antipyrin, that he would like to ascertain how frequently this complication had occurred, as he had used it a great deal hypodermically, and in no case had it produced an abscess. It had seemed to him that the best way to produce the most lasting effect of antipyrin was by the administration of a drachm by the rectum, the effect produced being as lasting as that usually secured by three doses given at regular intervals of one hour by the mouth. He had also failed to notice any evidence of weakening of the heart's action from the administration of this drug, although he was aware that it might be expected to occur from physiological reasons. He had administered it to an infant, ten months old, in doses of three grains at frequent intervals, without producing any depression of the pulse, and always with a happy effect. The child was suffering from broncho-pneumonia, complicating whooping-cough.

Its use in sunstroke had been alluded to, and it was his practice during the last summer to arm the ambulance surgeon of the New York Hospital with a solution of antipyrin, and direct him to at once administer to the patient suffering from sunstroke a hypodermic injection, and then to bring him to the hospital, where he could receive more active antipyretic treatment. In several instances patients had recovered after an unusually high temperature had been reached; in one as high as 111° F.

Dr. L. Emmet Holt referred to the administration of antipyrin in thirty cases occurring in quite young children, and he had yet to see any bad effects from its use He had always been satisfied with small doses. To children under one year of age he had administered two grains for three doses inside of an hour, and then stopped. To children from three to five years of age he had administered from three to five grains every half-hour until three doses had been given. The quieting effect on the nervous system in children had been very striking; so much so, that when a child's temperature was above 104° F., accompanied by an irritability which it had been impossible to quiet, even by the use of opium, two or three doses of antipyrin had succeeded in bringing down the temperature and relieving the other symptoms in a striking degree. With regard to the disturbance of the stomach, he thought it was exceptionally rare. Sweating in children after the administration of antipyrin was not a common symptom. The doses which he had mentioned had been sufficiently large to accomplish the particular object for which the drug was administered, and in the course of an hour the temperature had usually fallen one or two degrees, and subsequently two or three degrees lower. The cases in which he had used it had been typhoid fever, scarlet fever, dysentery, and cholera infantum.

Dr. Putnam-Jacobi referred to one observation which she had made, namely, the administration of fifteen grains of antipyrine to an adult suffering from typhoid fever, of not a very severe type, but which was followed by a sudden fall of temperature from 105° to 99° F. in the course of one hour, and then rising almost immediately. This sudden transit was not at all agreeable, and she had wondered whether it was very exceptional. Great range in the fall of the temperature seemed not to have been mentioned by any of the speakers. Dr. Ball had mentioned the fact that if the temperature fell one, two, or three degrees it might be taken for granted that such lowering was sufficient, but Dr. Putnam-Jacobi thought it might be well to emphasize the fact that when such a lowering of temperature had been secured we were doing all that was safe. She then referred to a case which occurred in Brooklyn, and which she had already reported in a paper read before the State Medical Society, in which the temperature was 106° F. and the child was kept in a bath until the temperature fell to 100° F. and then removed; but the temperature went on falling, and the case terminated fatally.

She would make an additional suggestion—that is, whether the value of an interruption in the course of the fever did not owe its fundamental value to some interruption in the life process which was being sustained in the infectious agent. A small degree of variation in the

temperature will greatly affect all micro-organisms, and perhaps might seriously interfere with the development of all micro-organisms which belong to the pathogenic group, a benefit which the patient would receive apart from that which we get from the direct effect produced upon the heat by the administration of the drug.

The Section then adjourned.

Stated Meeting, February 16, 1886.

ALFRED C. LOOMIS, M.D., LL.D., CHAIRMAN.

DR. F. P. KINNICUTT read a paper on

THE USE OF NITRO-GLYCERINE IN THE DIFFERENT FORMS OF NEPHRITIS,

in which he gave a number of interesting cases that showed the influence of this drug in reducing albumen. The general conclusion was that the remedy properly administered, was beneficial in the class of cases under discussion.

The discussion was opened by DR. W. H. DRAPER, who said that ever since his attention was called to the value of nitro-glycerine in angina pectoris, by the publication of Murrell's thesis, and subsequently to its utility in uræmic headache and asthma, he had had many opportunities of confirming its efficiency in relieving those symptoms.

The coincidence of the reduction of the arterial tension, which usually accompanies uræmic headache and asthma, with the relief of those symptoms which follow the administration of nitro-glycerine, is strongly suggestive of the explanation commonly given of its action, namely, that it relieves cerebral and pulmonary anæmia by relaxing spasm of the arterioles and flushing the capillaries.

The analogous action of amyl nitrite in preventing epileptic seizures seems to confirm this theory of its effects in the treatment of the uræmic accidents in which it has been most successfully used. There could be no question, judging from his own experience, of the very prompt and decided relief which nitro-glycerine affords to these distressing symptoms, and though it sometimes fails where opium succeeds, it is certainly for many reasons to be preferred to opium, where it gives relief. From his observation the cases in which it failed were those of advanced disease, in which the functional power of the kidney was well-nigh exhausted and the action of the heart was greatly enfeebled.

Concerning the principal point of Dr. Kinnicutt's paper, the utility of nitro-glycerine in controlling the progress of intrastitial nephritis, he had no experience to offer. Dr. Kinnicutt's investigations certainly seem to lend support to the view of Professor Rossbach, that the lowering of high blood-pressure rather increases than diminishes the urinary secretion. As to the effect of nitro-glycerine in diminishing the daily loss of albumen, it seemed to him that a larger number of observations were necessary to establish the uniformity of this effect.

In some observations which he made during his late service at the New York Hospital—less carefully made than those of Dr. Kinnicutt—the results were negative, the excretion of albumen varying from day to day while nitro-glycerine was administered, just as it did when it was withheld.

There was one effect of nitro-glycerine to which Dr. Kinnicutt alluded in speaking of the physiological effects of the drug, but to which, if he remembered rightly, he did not give much prominence from a therapeutical point of view, that is, its effect as a cardiac stimulant.

In the July number of the *Therapeutic Gazette*, Dr. Joseph B. Burroughs, of Manchester, N. Y., published an article recommending the employment of nitro-glycerine as a substitute for alcohol. He asserts that from an extensive experience he has found it of great value in the shock resulting from accidents, in the nausea and faintness following surgical operations, in the failure of the heart's action due to the administration of chloroform, in opium-poisoning, and in the collapse of typhoid fever.

Dr. Draper had used it as a cardiac stimulant with varying results, and was not prepared to say that it had the advantage claimed for it by Dr. Burroughs over alcohol, opium, or digitalis. In one case of shock from cerebral hemorrhage, in a young woman, after confinement, when death seemed imminent for some days from heart failure, he found it of the greatest service. Its effects were most carefully and intelligently observed, and there was no doubt as to its prompt and pronounced effect in regulating and strengthening the heart's action.

Dr. Kinnicutt states his conclusions in regard to nitro-glycerine with a caution as regards its utility in the treatment of nephritis, which is clearly demanded by the present limitations of our knowledge. Of its efficiency in relieving some of the most distressing symptoms which occur in the course of renal disease, he has brought some very conclusive evidence in the cases which he has related.

DR. C. L. DANA said that he had used nitro-glycerine chiefly in nervous diseases, but of late collected some observations on its efficacy in chronic nephritis and on its action as a diuretic. His cases were eleven in number, five of healthy persons, six of cases of nephritis—the five persons with healthy kidneys had had their urine for twenty-four hours measured. They were then put upon doses of one per cent. solution of nitro-glycerine in doses ranging from gt. j. every hour to gt. j. every two hours. The effects were, with one exception, to increase the amount of urine as follows, the first figure representing the daily urine without medication: Case I., urine 36 to 60 to 46 ounces; Case II., urine 72 to 81 ounces; Case III., urine 38 to 46 ounces; Case IV., urine 20 to 28 to 46 ounces; Case V., urine 62 to 72 ounces.

In the six cases of chronic or subacute nephritis the record was as follows:

CASE I.—Acute nephritis, supervening upon a chronic interstitial nephritis. Patient brought in in uræmic convulsions; urine, 1.025, smoky; albumen eighty per cent.; hyaline, fatty, and granular casts; blood-cells. Patient under treatment twenty-one days.

Nitro-glycerine ♏ ij. to ♏ iij. of one per cent. sol. q. 2 h. for three days, then stopped for three days, then given again in doses ♏ j. q. 3 h. to ♏ iij. q. h. for three days, when urine was found to be 1.008, pale; considerable albumen; blood, hyalin casts.

The nitro-glycerine on first trial did not affect the urine. Three days later, when tried again, it caused, in same doses, rapid increase in the amount of urine, up to 100 to 110 ounces daily. After it was stopped the polyuria continued to increase up to 140 to 150 ounces daily. It then gradually decreased. The nitro-glycerine did not clear the urine of blood or of albumen or casts.

CASE II.—Man, aged fifty-five; chronic interstitial nephritis; anasarca; urine light-colored, 1.011; trace of albumen; fatty and waxy casts. Placed on dry digitalis and pot. acet. for three days, then on nitro-glycerine, ♏ ij. q. 3 h. to q. 4 h. for nine days.

The nitro-glycerine caused an increase in the daily urine to over double the original amount (30 ounces to 62 and 80 ounces). The digitalis and potass. given for three days did not increase it. After discontinuance of nitro-glycerine the urine increased in amount for two days, then slowly fell. Patient discharged improved.

CASE III.—Febrile albuminuria. Patient male, aged forty-five; admitted convalescent, probably from typhoid; urine, straw colored, acid; 1.015; albumen, granular and hyaline casts.

For five days patient placed on digitalis and potass. acet., then medicine stopped. In two days renewed again for two days, then stopped, and patient was placed on nitro-glycerine for eleven days, in doses of ♏ j. q. 3 h. to ♏ j. q. 4 h. The urine under digitalis increased slightly. Under nitro-glycerine it did not increase, in fact had no perceptible effect. Patient discharged with only a trace of albumen in urine, but some fatty and hyaline casts.

CASE IV.—Chronic nephritis, dating back three years; great anasarca dating back one week; urine smoky, acid, 1.014; albumen, hyaline; granular and epithelial casts.

Placed on nitro-glycerine ♏ j. q. 1 h. to ♏ iv. q. 1 h. for ten days, medicine stopped for ten days and patient put on dry diet. At end of ten days nitro-glycerine renewed, ♏ ij. q. 1 h. to q. 2 h., for four days.

In this case of acute nephritis supervening on a chronic disease, the nitro-glycerine when first given apparently caused the urine to increase in daily amount from 12 ounces to 40 and 50 ounces in two days. After this there was no increase in urine, and no diminution in œdema. Ten days later, while on a dry diet, the drug was renewed, and the urine increased rapidly from about forty to seventy ounces daily.

CASE V.—*Chronic nephritis, cirrhotic kidneys, chronic bronchitis, emphysema.*—Woman, aged fifty-six; urine amber, 1.018, acid; trace of albumen; epithelial, hyaline, and granular casts; red blood-cells. Put upon nitro-glycerine ♏ j. q. 5 h. to ♏ iij. q. 2 h. for four days. Medicine stopped for two days, then renewed, ♏ j. q. 3 h. to ♏ ij. q. h., then medicine stopped two weeks. Here the drug increased the daily flow quickly from 32 ounces to 71 and 100 ounces. On stopping the medicine the urine continued to increase for next two days to 112 ounces. The medicine being renewed it fell to 75 and 70 ounces. Then, on stopping the medicine permanently, the flow increased to 133 ounces, kept high for a week, then gradually fell to 43 ounces. Patient improved.

CASE VI.—Male, aged forty-four. Patient gave a history of uræmia and dropsy occurring a year ago, and recurring just before admission. No fever. On admission gave symptoms of uræmic poisoning, and had œdema of extremities. No cardiac symptoms, urine negative as to albumen and casts, 1.029, alkaline.

Placed upon nitro-glycerine ♏ j. t.i.d. to ♏ ij. q. 2 h. and kept up for nine days. Urine increased from 25 ounces to 45 and 50.

From his experience Dr. Dana concluded that nitro-glycerine was a powerful and rapidly acting diuretic, both in health and in certain forms of chronic nephritis; that it must be given, however, in frequently repeated doses of ♏ j. to ♏ ij. every two hours; that in acute renal congestion or inflammation it apparently did not act so well; that it did not appear to clear the urine of blood or greatly lessen the percentage of albumen; that in some persons it does not seem to have the diuretic effect very markedly, and that, after stopping the drug, the flow of urine may continue to increase for several days, and may keep quite high for a week.

DR. KINNICUTT, in closing the discussion, directed attention to two points, namely, that many of the preparations of nitro-glycerine were unreliable, and that the physiological effects, as a sense of slight constriction about the neck, a slight intra-cranial fulness, and flushing of the face, should be recognized after the administration of a dose, in order that we might know that a reliable preparation was being used.

The topic of general discussion was the question

"IS ULCERATIVE ENDOCARDITIS ALWAYS A SPECIFIC DISEASE?"

and the discussion was opened by DR. THOMAS E. SATTERTHWAITE (see p. 239).

DR. W. H. PORTER, continuing the discussion, said he had reviewed his records of autopsies, four hundred and fifty in all, and had failed to find one, with possibly a single exception, which could be properly placed under the head of infective endocarditis. In the exceptional case there was extensive ulcerative endocarditis, with softening of the ventricular walls, but the condition was apparently that of old lesions upon which an acute process had been grafted.

DR. WESLEY M. CARPENTER said that the paper by Dr. Satterthwaite and the statistics by Dr. Porter showed that the form of endocarditis which the reader called infective was not of frequent occurrence. He was unable to give positive reference, but was able to recall at least two cases of ulcerative endocarditis seen in the autopsy-room at Bellevue Hospital during the last twelve years, and those occurred prior to the days of modern antiseptic surgery, and also during the existence of lying-in wards in that institution.

The lesion in those cases affected the aortic valves prominently, and the exudation upon the valves contained micro-organisms.

Of ulcerative endocarditis affecting the *right* heart he had seen one specimen, presented to the New York Pathological Society by Dr. Ferguson, and another case had been reported in the *Medical News*, but the name of the gentleman who reported he was unable to recall. These were noteworthy exceptions, so much so that one of the gentlemen regarded his specimen as unique. In the light of these facts, based upon observations made at autopsies, additional interest was given to recent articles concerning the essential nature of infective ulcerative endocarditis, and it might not be unprofitable to refer briefly to some of the work which had been done in this direction.

Orth, of Göttingen, reports that he has been able to produce ulcerative endocarditis in animals by first lacerating the aortic valves and then injecting micro-organisms into the circulation.

Ribbert, of Bonn, publishes that he has been able to produce endocarditis by injecting into the circulation the staphylococcus aurens, without first lacerating the aortic valves. Two points in his experiments are worthy of notice. First, to produce any effect, the injection of not less than a certain quantity of cultivated micrococci was necessary, and the best effects were produced when this material was considerably coarse. Second, the results obtained did not affect the aortic and pulmonary valves, but were seen upon the mitral valve, and also in the right heart upon the tricuspid valve. It seems, then, that the ulcerative endocarditis produced in animals artificially by the injection of micro-organisms does not involve the portions of the endocardium in which the disease has been seen by far the most frequently in the human subject.

DR. E. DARWIN HUDSON, JR., related the clinical history of an undoubted case of ulcerative endocarditis, in which there was evidence of long-standing mitral and aortic lesion. In the absence of any definite proof of the specific nature of the disease, the question arises whether degeneration of extensive vegetations is not entirely adequate to produce all the symptoms and determine suppurative results seen in various organs.

THE CHAIRMAN said that he had been accustomed to recognize *three* forms of ulcerative endocarditis.

1. That which occurs primarily as a simple endocarditis in rheumatic subjects. These patients ordinarily give a history of exudative endocarditis which is not ulcerative, and they are in a depraved general condition.

2. The ulcerative endocarditis which occurs with chronic valvular lesions where we have had evidence of chronic insufficiency or stenosis. These subjects get debilitated, and at the seat of the old lesions ulcers occur, which give rise to emboli and infarctions attended by constitutional symptoms of a typhoid character. In some of these cases recovery takes place.

3. Inflammation at the valvular orifices, or in the endocardium, which results always in suppuration beneath the endocardium, followed by ulcer, emboli, and infarctions, which go on to suppuration, etc. It did not seem to him that there was necessarily anything specific in this class of cases, which were frequently seen in connection with diseases of the joints when the bones are involved. He thought that we should not look so much to the changes in the valves for the cause as to the general condition of the patient in this peculiar form of endocarditis.

DR. SATTERTHWAITE, in closing the discussion, said that he was very glad that Dr. Carpenter had spoken with

reference to the mycotic origin of the affection, as it was in the direction of what he believed—namely, that the pathologists who claim to have made out this origin have not yet proved their point. He was willing to say this after having read a most carefully written and exhaustive paper on the subject, and in which the author had given a review of what had been done in this field. It could be easily seen that there was no uniformity of opinion as to what kind of bacteria had been seen by different experimenters—one claiming that they were filiform in shape, another that they were round, etc., etc. Experiments had been made with cultivated bacteria, but the results had been that the experimenters had been unable to imitate the disease which occurs in the human subject. He thought, therefore, that physicians would do best not to pay very much attention to the mycotic theory in its present stage, but to adhere to the clinical symptoms, upon which a diagnosis must be made. The mycotic theory was interesting for the autopsy table only.

The Section then adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, January 4, 1886.

THE PRESIDENT, W. R. BIRDSALL, M.D., IN THE CHAIR.

DISCUSSION ON DR. PECKHAM'S PAPER (see p. 225).

DR. E. C. SEGUIN said that in his practice he had frequently derived considerable help in diagnosis from the patient's handwriting. He thought the medico-legal aspect of pathological handwriting might, after further study, assume considerable importance. It would be of value to be able to say in a court of law whether a given specimen of handwriting were that of an aged imbecile, a general paralytic, or an intoxicated person.

DR. LESZYNSKY thought he could hardly say from the specimens of handwriting of paralysis agitans presented that they were characteristic of that disease. He had a number of specimens of handwriting of chronic alcoholismus which were almost exactly similar. Dr. Peckham had not mentioned the handwriting of epileptics, nor had he read of anything characteristic about it, but he could recall two epileptics whose handwriting appeared to be rather unique. In some epileptics there was the condition known as the echo sign, being a repetition of words during conversation. He had seen the same thing manifested in the writing in two cases. He had recently had a case of telegrapher's cramp, in which the movements were remarkably ataxic, being without any control.

DR. PUTNAM-JACOBI had been struck by the great varieties and peculiarities in the handwriting of persons in usual health. Some of the peculiarities supposed to be more or less characteristic of the handwriting of diseased states were also observable in the handwriting of certain persons in a state of health. For instance, Dr. Jacobi was unable, without giving special attention, to write in a direct line across the page; the line always sloped downward. The question had suggested itself to her whether in the case of the insane the tendency, especially after writing for a while, to slope the lines downward and to use capitals profusely, was not due to mental fatigue; and the use of capitals might be due to a desire to emphasize an idea, which a fatigued and feeble brain was incapable of correctly expressing.

DR. DANA said he did not think it would be practicable for everybody to learn short-hand instead of other writing, but he thought some modification of short-hand might be adopted. There would result, perhaps, greater facility of expression if present methods of writing were simplified, but there would no doubt be an increased amount of writing, which perhaps would be a greater misfortune.

Regarding mirror-writing he thought it was physiological. When we educate the centres to write with the right hand, we at the same time educate to some extent the automatic centres for left-hand, or mirror-writing. If a person put a pencil in either hand and attempt to write his own name, he will find that the left hand will write mirror-writing, while from the right hand the usual writing will result. If, then, by hemorrhage the centre for control of right-hand writing be destroyed, it would be perfectly natural for the centre controlling left-hand writing, if not corrected by the will, to produce mirror-writing.

DR. A. B. JUDSON presented a specimen of mirror-writing by a negro girl, eleven years of age, produced ten years ago. She had slight right hemiplegia, but was able to perform household work with her right hand, and she could also write somewhat with it. The writing with the left hand was a fine specimen of mirror-writing.

DR. PECKHAM closed the discussion, and said that the echo sign, the repetition of written words, was well shown in the third specimen presented, that of a woman who had right hemiplegia and amnesic agraphia. Regarding the use of capitals and the tendency to underscore by the insane, she thought it in harmony with their exaggerated ideas.

The Society adjourned.

Correspondence.

"CONGENITAL TORTICOLLIS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Seeing in THE MEDICAL RECORD of January 23d an article by Dr. Hadra under the above caption, I send you the history of three cases similar to those there described, with recovery without myotomy. My own child, a daughter, when three weeks old, was found to have a tumor the size of a robin's egg, elongated, in the middle of the left sterno-cleido-mastoid muscle.

The child's head was drawn to the corresponding side. The muscle for an inch and a half above and below the tumor was tense, hard, and tendinous, rather than muscular, to the touch.

Hesitating to subject so small a child to the risks of an operation—always a serious thing in children—although none of the works consulted gave promise of relief otherwise, I submitted the case to an old practitioner, who bade me have no concern, as he had had two precisely similar cases, both recovering without operation.

I resolved to wait, at least, and see, continuing, meantime, the use of simple olive-oil with systematic rubbing three times a day. After four weeks the tumor was perceptibly smaller, and the contraction less marked. At the end of six months both the tumor and contracture had entirely disappeared, and to-day the child, a six-years-old, carries her head as erect as any one.

Such also was the outcome—one in five months, the other in seven—of the two cases described by my adviser.

"If the deformity of a congenital torticollis from contraction of the sterno-cleido-mastoid muscle," says our writer, "is due to a fibrous de eneration," etc.

Is not the question whether there was fibrous degeneration the very point to be decided?

"Degeneration," according to Dunglison ("Med. Dict.," art. Degen.), "is a degradation of intimate constituents." Virchow (ibid.) also uses a similar term, "necrobiosis," to express the same thing; while Conner says ("Inter. Ency. Surgery," vol. iii.): "The changes which may take place in muscular tissue are granular, waxy, fatty, and pigmentary degeneration"—never fibrous. And the facts would substantiate the statement, that the contraction in question, if anything, is not a degeneration, but rather a closely packed bundle of muscular fibre, the result of some intra-uterine inflammation of the sheaths of the muscle, producing cicatricial contraction of those sheaths and the muscle-fibres inclosed. While the results of operations in Dr. Hadra's cases place beyond cavil any other condition than a contraction, the possi-

bility of non-myotomic recovery seems not to have occurred to him.

Rheumatism, spinal malformation, and rachitis are excluded in my cases. The children were delivered by instruments, safely, and without discoverable injury. Granting, however, that the etiology here was traumatic, does it follow that the difficulty was less serious, or operative treatment less imperative? How are we to know, from any examination possible, that the contracture is *fibrous*, and consequently, in Dr. Hadra's words, "not amenable to orthopedic appliances, emollients, or massage?"

"The tumor may disappear," he further says, "but the contraction will grow worse if left alone." Dr. Hadra gives the results of two cases seen by himself, and their successful treatment, in accord with accepted authorities, by early myotomy.

I have given the history of three cases precisely similar, so far as it is possible to determine—the other two differing in no essential from the one detailed above.

These also recovered, and, contrary to the writer's sweeping assertion, *without* operation; and completely, as proven by the lapse of several years with no symptoms of return.

These instances suggest the inquiry: Might not a majority of the cases recorded as operated upon for torticollis have recovered without operation, using massage, and emollients, olive-oil, cosmoline, etc., instead?

We might at least give these little patients the benefit of the doubt, and wait a reasonable time before subjecting them to needless suffering and the dangers attending all operations upon the neck, with their not infrequent sequelæ, septicæmia and death.

This course commends itself the more, since delay in such cases is not dangerous, a crisis is not imminent, and haste, therefore, unnecessary. The operation can be performed at six months as well as, and with less real danger than, at six weeks. Mayhap by that time the scalpel will not be needed.

There ought to be earnest protest entered against this fast growing propensity to indiscriminate use of the knife. To men of experience, whose years of study and observation have brought caution and judgment, Dr. Hadra's advocacy of this heroic method can do no harm. It is otherwise with the beginner. To him there may seem no other remedy or method than the one recommended by Dr. Hadra, as it comes to him while anxiously studying his first case of torticollis. Should we not, although with the present weight of authority against us, say to him: Wait, and in the name of humanity stay the too ready hand, first using nature's remedies, and resorting to harsher measures only when all other resources have proven futile?

Thus only shall we approach the ideal physician—in uncertainty careful, in emergency self-possessed, in danger fearless, in all things honest.

F. D. BROOKS, M.D.

CLAYVILLE, N. Y.

JAPAN AS A FIELD FOR MEDICAL PRACTICE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am constantly in receipt of letters from physicians in America who appear to consider Japan an El Dorado, inquiring as to the opportunities and prospects for medical emigrants to that country. A similar letter having been referred to me recently, by the American consul here, I indorsed it as below. It strikes me that by its doggerel form it may attract more attention in your columns than would the soberest and most professional statement of the facts, which are nevertheless truthfully put.

I must, however, request that names and exact localities be suppressed. Perhaps a few lines of editorial, as suggested, might do. Yours,

STUART ELDRIDGE, M.D.

The following indorsement, by the consular medical officer, appears upon a letter inquiring as to the laws regulating, and opportunities for, medical practice in Japan, addressed to an American consul in that country by a physician in the United States contemplating emigration. It is evident that whatever Japan may have been in time past, it is no longer a remunerative field for the foreign practitioner.

Respectfully returned. In this Rising Sun Land
There's a law, as elsewhere, of supply and demand,
Which applies unto doctors as well as to corn,
And forbids further import, as sure as you're born.
For the Japs have their own learned dispensers of pills,
And but rarely call *us* to prescribe for their ills;
And e'en when they do, at least when they call *me*,
Send me bad eggs, or sponge-cake, by way of a fee.
As to foreigners here—why, we've doctors enough
For a town thrice its size. Yes, completely *quant. suff.*
Did I say *thrice* its size? 'Twould be much nearer true
Had I made it six times; but then either will do
To explain what I mean, viz.: that doctors are plenty;
In proportion to laymen, say as one is to twenty.
And the twenty—good Lord! but how healthy they are!
And as poor as they're healthy, pleading "no biz" in bar
Of payment of bills, be these large, be they small;
Till in truth its scarce worth sending bills in at all.
"Did you call twenty times, Doctor? Seems to me not;
I never once dreamed that so low I had got.
To be sure I was sick. Once I thought I'd have died.
But I might have been cured sooner had you but tried.
The times are so hard, and exchange is so high,
If it wa'n't for the funeral 'twould be cheaper to die.
I'm sure that 'night visit' was made after six,
And yet you've charged double. Well, say that we fix
This bill of yours thus: the amount is so large,
And each visit three dollars! here, here's half of your charge.
You can take it or leave it." 'Tis taken with glee
At recov'ring e'en half of our hardly earned fee;
For the doctor full knows (and the patient as well)
For a doctor to sue sends his practice to—Sheol.
Unless Dr. M——e has good greenbacks galore
To fling to the winds on this far-distant shore;
Or, unless he can live, like old Tanner, on air,
As he's safe in God's country—God! let him stay there.

YOKOHAMA, JAPAN, January 4, 1886.

OPHTHALMOLOGY IN PARIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I HAD hoped to find time to write to THE MEDICAL RECORD from Paris something that would be of interest to physicians. The auspicious moment, however, did not present itself; or, at least, so I fancied, and it amounts to the same. The Christmas holidays, being, like all other holidays, sacredly (?) observed by the Viennese—noted clinicians and all, so wonderfully do the exigencies of suffering mortals adapt themselves to periodical pauses—afford one an admirable opportunity of thinking on unfulfilled promises, provided he hasn't too many other such pleasant things to think about. Unfortunately (for my letter) I am not in Paris, that well-spring of originality in medicine. Fortunately (for me) I *am* in Vienna, a place which every man who can, particularly every medical man, should visit; besides, is not Paris but on the way back to America? It is never so satisfactory, either, to write or to read mere recollections in lieu of coeval things, and the only apology for a Paris letter from Vienna must be sought in the statement made at the outset, coupled with the fact that, while the material is drawn chiefly from memory, the subjects are mainly current ones. Though having as an essential mission abroad the looking up of matters relative to special branches, it certainly were not advisable to neglect the progress of the science in general, nor the noting of many other and quite extraneous matters. But if one expects on crossing the Atlantic to find every method an improvement on those to which he has been accustomed at home, he is doomed to be *most happily* disappointed. If he goes no farther than London, he will probably find nothing so good.

The very first thing by which one is struck on the Continent—which, by the way, is more forcible than pleasant or enlightening—is the bad air of rooms in which clinics of great men are conducted. The Frenchman, be he layman or professional, undertaker or hygienist, has a mortal

aversion to fresh air. The windows of his sleeping apartments are kept scrupulously and hermetically sealed, even on the most sweltering summer night, as otherwise it would be *very bad for the eyes*. What acts as a preventive of ocular maladies must of necessity be a prime factor in their treatment, so it would seem, for you might hang up your hat anywhere in any room about the Paris eye-clinics. To be sure, that of Professor Panas, one of the very best, held, as it is, on the ground floor of the palatial Hôtel Dieu, has the loftiness of the ceilings and general commodiousness to thank for being almost an exception. I have never seen its windows and doors open. The good result obtained amid such wretched surroundings is one of the strongest proofs of the efficacy of antiseptic medicine. And truly do they stand by the latter. The hateful, impish bacillus is hunted down most unrelentingly. If he lurks about the jaws of scissors or the blades of knives, he is suffocated in a twenty per cent. solution of phenol; if he alights on the site of a proposed operation, he is sponged out of existence with sublimate in water; if he hides in an Eustachian catheter, he is overwhelmed and eaten up by permanganate of potash (1 to 500); and in divers anatomical nooks and crannies, whither he betakes himself for mischief, he is shot dead with powder of iodoform. Not only are surgeons' and assistants' hands always washed in sublimate or boric water, and instruments immersed in carbolic, but these same precautions are religiously adhered to throughout *all subsequent interference*.

Another thing I cannot refrain from alluding to while it occurs to my mind. It is the tractability of patients in the Old World, particularly on the Continent. Our American freedom and independence, while they are a privilege and attribute in general greatly to be applauded and admired, may be found sadly in the way of those who seek the benefits to be conferred by disciples of the healing art—to say nothing of the inconvenience they may occasion the disciples themselves. All things else being equal, the European physician will ever accomplish the greater good so long as this difference in disposition remains thus in his favor. It is manifest even among the more juvenile classes. Only a day or two ago, I saw a young one of two years hold on tightly with both hands to its nose, while it bore without a whimper the probing and other gouging of an open, ulcerated mastoid.

As for anæsthetics, one who has been accustomed to the uniformly safe and efficient ether narcosis, when carefully conducted, cannot but wonder at the fearful predilection of the men of Europe for chloroform and its scarcely less treacherous admixtures. Fortunately, they evidence a high appreciation of the value of human life in the discretion with which these things are always administered. The almost universal medium is the Esmarch basket. Péan, however, the most taking, if not the most distinguished, of the Parisian surgeons, in his clinic at the hospital of St. Louis, resorts to the complicated apparatus of Junker, or a similarly constructed one. A word just here as to this gentleman (Péan) might not be amiss. The *personale* of the man, though something unique, owing to his appearing always at the hospital clad in a dress-suit, is most engaging, while his cleverness, skill, and the clearness of his demonstrations are nothing short of extraordinary. The costume referred to, if it be an eccentricity, is certainly a happy one. It must be infinitely less suggestive, if not more inspiring, than the butcher-like garb assumed in most instances. The patient, if, as usually the case, an anæsthetic is to be given, sees before him naught more direful than an elegant gentleman, and, accordingly, feels less like a victim. It is only at the moment of commencing the operation that an assistant ties behind the surgeon's neck a large napkin, sufficiently ample to protect his front—and for each case a fresh napkin.

One of the most striking differences thus far noted between methods at home and abroad relates to the extraction of cataract. Professor Panas has long since, in an excellent paper entitled "The Best Mode of Operating for Cataract," expatiated on the prevailing tendency to return to first principles and procedures; and many have come seriously to doubt if Graefe really did so much in this direction as to merit the world of fame he acquired. Take, for example, the clinic of M. de Wecker—his method consists in the following steps: Hands, instruments, etc., having been disinfected, and the sensibility of the eye annulled by cocaine (an anæsthetic is never given), an assistant lifts and fixes the upper lid, while the operator depresses the lower with the forceps by which he holds the eyeball; then, with a miniature model of Graefe's knife, puncture and counter-puncture are made as usual, but, instead of adhering to Graefe's method, he cuts straight out, with startling rapidity, either in sclero-corneal juncture, or slightly within the cornea, so that the incision is essentially that formerly made with Beers' knife. If, then, the iris promises no serious interference with the exit of the lens, he omits the iridectomy. His capsulotomy consists in one vertical incision. Here he takes the upper lid from the assistant with his left hand, and with spoon in right delivers the lens by gentle pressure. After waiting a moment for the accumulation of aqueous, he milks out, by careful manipulation of the eye through the lids, whatever soft portions of lens substance may have remained behind, in a similarly dextrous manner to that of Dr. Agnew. He then cleanses the wound, and, if necessary, replaces the iris; and it is here that his ingenious little hard-rubber spatula does such valuable service. The operation completed, he proceeds to dress the eye by first applying to the wound, with a small spatula, a paste of iodoform and solution of carbolic acid, very much after the fashion in which the plumber lays cement on a joint of drain-pipe. The rest of the dressing is not peculiar. These operations are all performed on a table in one of the ground-floor rooms, and the patients allowed, immediately afterward, to walk up-stairs.

M. de Wecker extracts alike ripe and unripe cataracts, only making for the latter a somewhat larger incision; and, out of some three hundred extractions yearly, acknowledges a most insignificant percentage of poor results. He considers three weeks sufficient time to elapse before the discussion of secondary cataract. The absence of the blepharostat is doubtless an advantage, since those popularly employed are, at best, but bungling and pernicious instruments. That of M. Landolt, which has no horizontal bar to place beneath the lid, and can be readily removed from position with one hand, seems best to meet the requirements. While touching on ophthalmology, much might be said concerning the telling work of the last-named gentleman, as also of the gifted Galezowski; but not wishing to furnish application for the fable relative to hay in a certain manger, I choose to refrain—your space is too valuable. Though, perhaps, if your readers shall ever sufficiently recover, why, in the language of the polished Landolt, "*un autre jour, un autre article.*"

C. H. B.

VIENNA, December 28, 1885.

A WESTERN BREEZE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To be sure the medical profession in our country is in a sad plight. The bells of freedom are ringing out their invitations to the world: "Come and be merry. Here you can practise in an honorable profession without preparation and with abundant remuneration. Carpenters, blacksmiths, and farmers are permitted to prescribe for deadly ailments, receiving professional emoluments for their services." Why shouldn't they accept the invitation so freely given? The change from a London street-sweeper to an honorable American specialist is not an unpleasant one. Indeed, this glorious land of liberty is fast making slaves of us all through this mistaken notion of freedom. But here they come, butcher, baker, and fisherman, of

the poorest class, grasping a bottle and a pill-box, and all will soon be settled as wise European specialists. Who charges them with ignorance? Many patients will recover in spite of their maltreatment. How may the public know whom to choose, when death is inevitable, whether met by a Pasteur or a wonderful Chinese pulse-healer? The latter only makes mistakes, and so do we all. Can we blame an ignorant public for trying the new, when the old has ever failed? True, there are many other reasons for the hard times now being experienced by the medical profession in America. The Rebellion, while it lasted, opened a large field for the doctor. Physicians then made money rapidly, tempting young men to enter our ranks. In fact, the effects of the war in this direction are not understood even yet by hundreds who are just now entering our profession. Again, medical and hygienic literature are being scattered by the idle physician, and read by an increasingly intelligent public, so that thousands of well-to-do families need medical aid much less than formerly. This, of course, is a public benefit, and should not be decried. Hospitals and dispensaries are being located by hundreds. Money is being lavished upon these institutions by the rich; and it has come to pass that a man can often be better treated for nothing than by depleting his own pocket-book. Again, thousands of medical women—accoucheurs and professional nurses—are coming to the front, and are glad to work at greatly reduced rates. They once taught school for three or five dollars per week, and fifty cents for a prescription seems like rolling in riches, compared with their former condition. Another cause lies at the doors of the better class of the medical profession. Even when poor, we dress well, drive fine teams, and dwell in elegant residences. We even borrow money of intimate friends with which to carry on this deception, thus presenting to the young man about to enter business a picture of affluence and independence. We lie to the world by telling them we are doing well when we are doing nothing. By these false pretensions we induce thousands to join our ranks and divide up the already meagre profits. Truly a sad state of affairs! Fools in the profession quarrel, dog fashion, biting off each other's ears and noses. Knights of Don Quixote type shoot their brothers down. Prominent and skilful surgeons, who ought to be crowded with consulting cases, are forced to be constantly on the watch lest they lose a hard-earned reputation. Even in the growing West, where one would naturally expect to find good openings for physicians, financially speaking, every other occupation is superior. The common wood-chopper just over from Europe can save more money than the ordinary professional. Ox-teamsters with good habits often save four, six, and even ten thousand dollars, before forty years of age. I believe very few city or country physicians do better. The poverty of the Polish and the Russian physician stares us in the face unless we can improve our condition. What can we do? Quacks have always existed, and always will, if not legally, by evading the law. They may be exposed and crushed occasionally, but this can only be done by a united profession, such as we are far from being to-day.

The demand for physicians created by the war has ceased; and if we are only honest to the generation about us, and speak out and tell them that we are making nothing, and expect to make less, we may greatly diminish the increasing influx into the profession.

This we believe to be *the* remedy for our troubles.

More instead of less women are to be added to our ranks.

They have come to stay. Who blames them? If they cannot soothe the aching brow of a husband, or a son, they mean to stand by the bedside of the wounded soldier.

Hospitals will continue to draw our best families as long as they receive our skilled services for little or nothing. Patients of means prefer the attendance there to depleting their own pockets. Institutions for the needy poor are humane, but if we wish to eliminate all others we must charge more for services.

Instead of pulling down the skilled and the aged in the profession, as we fear is the rule to-day, we should help them. What we take from them goes often to the quack or to the novice. The struggling doctor of forty hints that the professional of fifty is antiquated in his practice, and in turn the former is soon submerged by his younger followers. If we can crush from the regular profession this selfish disposition, and render a helping hand to skill and experience, feeling sure of like support as we grow old, young men will find less encouragement, and quacks will lose their strongest support.

Then, again, one-horse medical colleges are becoming parasitic in nature, drawing life and energy from the body of the profession.

These are born in every hamlet by a few starving doctors, in order to thrust themselves more prominently before the public. A medical college in a sparsely settled community, with little capital and less talent, is a nuisance, and should be severely let alone. The metropolis alone should support medical schools. If this evil were abolished our better class of colleges would be more independent, receiving better pay for work performed, and able to withhold diplomas from all who are not capable and well instructed. As it is, medical colleges are in the same condition as the profession.

Can we not support our best schools and boycott the remainder?

It is time to act, if our profession is not to degenerate into worse than a trade; financially it is now beneath them all.

Undoubtedly this overcrowded state of affairs is the chief cause of the disgraceful attitude in which our once honorable body of national delegates now poses before the world.

Young men, and men of little experience and less skill, are struggling for existence, and must crowd out those of acknowledged ability and wisdom. Starvation or notoriety are the only alternatives; so the wise, who are few, are pushed aside by the inferior, whose number is legion.

Are there any remedies within reach for our disease? If not, woe unto our honorable body if it continue in the same course of degeneration it now follows.

In the West many of our best men are leaving the ranks for easier and more profitable occupations; more will soon follow, leaving the field to Chinamen and charlatans, unless our standing room can be enlarged.

Surely the cry of the pessimist is not without foundation! Is our diagnosis imperfect? If so, will some one please point out the mistakes. At least let us join hands, study the symptoms, search out the remedies, by experiment, if necessary, and apply them heroically. It is far better for the patient to die than live a life of abject misery.

A WESTERN SUFFERER.

THE MAN WHO IS ALWAYS DOING WELL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: As you drew us a picture of the bore who always buttonholes you and pours into your unwilling ear the marvels of a very remarkable case I had the other day, there still remains another variety of the *genus homo* to describe. This variety is very common and is found in all climates, but whether he flourishes and grows fat is a doubtful question. This specimen seems to thrive when practice is dull and we have "the blues." He always assails our ears with "never busier in my life," "been going all day," "up five times last night," "had three labor cases yesterday," "old Smith paid me fifty dollars for delivering his wife," etc. What is the trouble with this individual? Are his vagaries to be taken as the early indications of some mental trouble, or does he really believe that he did do

all this, or is he actually in cold blood infringing on the commandment which forbids prevarication? The treatment for this complaint, when in good humor, is no doubt to swallow it, *cum grano salis*, to take away the disagreeable taste and to help its digestion. But when exasperated by dull times what must we do? We know that his "going all day" amounted to his buggy standing two hours before his office and two drug stores, plus the two hours he can take to tell us all this in our office. And as for old Smith, we have been there. We presided at Mrs. Smith's previous accouchement, and the generous Smith's account still figures in only one column of our ledger, and if we believe what we hear his account is in unstable equilibrium on other ledgers. I say, what must we do, how must we treat this particular individual? Pray suggest something, for it was only yesterday that one of this genus flaunted a wallet in our face with the accompaniment, "Took in over two hundred to-day." Had we two been alone that wallet should have been ours at the risk of our life, not for its contents, but to show its emptiness. If any of your readers have met with such individuals their method of treatment is most earnestly requested.

DE PROFUNDIS.

THE PATHOLOGY OF INFLAMMATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the editorial in THE RECORD of January 30th, concerning a "New Theory of Inflammation," you say, "Despite much opposition, the vascular theory of inflammation still maintains itself as the most satisfactory one yet offered." Virchow's suppuration theory which you refer to as his "inflammatory-stimulus" theory was given to the world in 1855. Cohnheim's migration theory, referred to as his "vascular theory," was made public in 1867. In your brief review of past theories of inflammation you make no reference to Stricker's tissue-metamorphosis theory published in 1869, in which he taught that the cells return to their embryonic state. This theory Stricker modified in 1874, and it was called by him his tissue-metamorphosis theory (see "International Encyclopædia of Surgery," vol. i., p. 27, Pathology of Inflammation). The fact that no reference was made to this theory in your editorial would seem to imply that it has no merit. Believing fully in the uniformity of nature's laws, and that the phenomena of the universe are best explained by the evolution theory, it being the best working hypothesis extant, I hold the opinion that the phenomena of disease, as a part of the phenomena of nature, are best explained by the law of degeneration, which is but a part of the great law of evolution, and that the pathologico-histological changes in all diseases are forms of degeneration.

Stricker defines his theory as a "metamorphosis of tissue; return to the embryonic condition; division into amœboid cells of the masses which have become movable; hence the destruction and the suppuration."

This theory of Stricker's seems to me to be in accord with what is known and taught by our best scientists concerning the law of evolution. Slight modifications of his views may be necessary as science progresses, but in the main I believe his theory will be proven to be true.

Degeneration may be defined as those changes from a higher to a lower form, from the complex to the simple, from the heterogeneous to the homogeneous, in which the organism becomes adapted to less varied and less complex conditions of life, in which there is suppression of form corresponding to the cessation of work. Reversion of structure toward, or to the embryonic state is one of the kinds of degeneration. Not that all degenerations are the exact reversed process of elaboration, but that some are, and the inflammatory process is, in many cases if not in all, this form of degeneration.

Stricker says: "Two features characterize inflammation, viz.:

"1st. An active hyperæmia.

"2d. An active tissue metamorphosis."

In active hyperæmia the blood-vessels become dilated because the stimulus, traumatic agency or influence, has induced an impaired function of the special nerves of that part definitely known as the vaso-motor nerves. That this impaired function of the nerves is a degeneration may be seen by recalling Herbert Spencer's well-known law of development and its converse, viz.: "When a wave of molecular transformation passes through a nerve there is wrought in the structure of that nerve such a change that a like succeeding wave will pass through with greater facility than its predecessor."

It seems to me that the converse of this law must be equally true, viz., when a wave of molecular transformation passes through a nerve with less facility than the preceding wave, there has been wrought in the structure of that nerve a change from a higher to a lower organization, and this is, at least, a temporary degeneration. In corroboration of this view experimental and clinical investigations have proven that these degenerative changes are characterized in the main by diminution and loss of the faradic and galvanic irritability, and this loss of power demonstrated by electricity is characterized as "degenerative reaction." Not that this can be easily demonstrated in inflammation, but that there are good reasons to believe it exists.

Stricker holds that the cardinal symptoms of inflammation, redness and heat, not always being present should be discarded as inaccurate, for when present both are fully explained by the active hyperæmia, the redness by the increased quantity of red blood-corpuscles, and the heat by the accelerated blood-current.

Pain, swelling, and impaired function are explicable only on the hypothesis of tissue metamorphosis.

Pain and visible swelling are not always present in inflammation. The swelling from infiltration and enlargement of the cells Stricker holds to be due to a more youthful condition of the tissues, the pain to tension or laceration of nerve-filaments induced by the swelling, and the impaired function to degeneration of the structures involved. These changes in the tissues are always degenerative at first, and when a stage of retrogression has been reached where cell multiplication can take place, the tissues may then be elaborated into their appropriate mature structure, or they may undergo still further degenerative changes which are destructive in character. Dr. Landerer considers "inflammation a conservative, protective, and reparatory process."

No doubt this is often the case, but not always. The forms of degeneration seen in inflammation are various; they no doubt vary with the nature of the exciting cause, and with the intensity of the inflammation, with the character and extent of the vascular disturbance, and with the nature of the tissue involved.

My object in writing these few lines is to invite attention to the "tissue-metamorphosis" theory of Stricker concerning the pathology of inflammation, and its truth or falsity, and to the value of the law of degeneration as explanatory of all pathological processes.

L. A. MERRIAM, M.D.

OMAHA, NEB., February 3, 1886.

CONGENITAL DIAPHRAGMATIC HERNIA. M. Chevalier reports the case of a child born at seven and a half months, with marked ascites, who lived only an hour. At the autopsy, after an incision into the abdomen and evacuation of the fluid, an opening was seen in the middle portion of the right half of the diaphragm, through which the entire right lobe of the liver with the gall-bladder had passed into the cavity of the thorax. The hernia extended as high as the right clavicle, and was covered by a translucent membrane like the peritoneum or pleura. The right lung was compressed and pushed to the left.—*Revue Médicale*, December 26, 1885.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 20, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
February 20, 1886.....	2	7	45	4	6	65	3	0
Deaths.								
February 20, 1886.....	0	2	7	4	1	32	0	0

CLINICAL NOTES.—For dropsy due to anæmia, Professor Da Costa ordered Blaud's pill to be taken. Professor Da Costa frequently prescribes codeia in half-grain doses for cough. Professor Da Costa prescribes the centesimal solution of nitro-glycerine for asthma, commencing with one drop ter die. At Professor Parvin's clinic was a woman who had borne eighteen children at full term. She was accompanied by her sister, who had borne sixteen. Subnitrate of bismuth, mixed with glycerine, as thick as can be used in a syringe, is a capital injection for gonorrhœa (Bartholow).—*College and Clinical Record.*

DR. DA COSTA ON THE MEDICINAL TREATMENT OF DIPHTHERIA.—As to *medicines*, one of the earliest and best treatments is by potassium chlorate, 3 j. to 3 iss. per diem, in divided doses, well diluted. Next to this, either alone or combined with it, is tinctura ferri chloridi, gtt. x. every hour or two, for a child aged ten. The rising treatment now is with calomel. It consists in giving large doses frequently, not minding the free movements from the bowels. Give one grain every hour till twelve doses have been taken, then the same amount every second hour. This has been often tried in the *laryngeal* form, in larger doses, and is of especial utility in this variety of the disease. Corrosive sublimate, gr. $\frac{1}{10}$ to $\frac{1}{12}$ every hour, is a similar but hardly as effective treatment. Jaborandi is a very new remedy in this trouble. The idea is that when the patient sweats well the membrane will loosen. As it is very depressing, it is not safe unless the patient is quite strong. Locally, strong caustics have been abandoned. Cleansing, disinfecting gargles are the modern treatment. Carbolic acid, with borax and soda, may be used. Thymol holds a high place, never weaker than ten grains to the ounce. ℞. Thymol, 3 j.; glycerini, f 3 iij.; aquæ, f ℥ iss.: M. Sig.—Gargle. Dilute, if necessary. Permanganate of potassium, a favorite with the English, equal parts of lime-water and glycerine, or two parts of the former to one of the latter, are very useful and grateful. When the patient is old enough these are best used in the form of spray. Equal parts of Monsel's solution and glycerine may be used when the redness and swelling are very great. Do not scrape the membrane. The most prominent among the solvents for the membrane are lime, bromine, and pepsine. Of lime it is difficult to get enough. Bromine is too irritating. The remedy that has done best is a saturated solution of pepsine in the form of spray. Lactic acid, jaborandi, and numerous other agents which have been used for this purpose, have some solvent power, but not enough.—*College and Clinical Record.*

SODA AND TEA.—The addition of bicarbonate of soda to tea-leaf, in the proportion of ten grains of the former to an ounce of the latter, has been found to remove almost entirely the injurious effect of tea on starch digestion.

IT NEVER RAINS BUT IT POURS.—The physician of King Alfonso, after having had the misfortune to lose his royal patient, narrowly escaped from the hands of a mob who made an attack on his carriage during the progress of the funeral procession in the Prado. But for the timely interference of the police the unfortunate physician's widow would probably now be meditating upon the fickleness of fortune.

MEDICAL SCHOOLS PROSPERING.—The medical schools of Charleston, S. C.; Atlanta, Ga.; Richmond, Va.; and the University of Virginia, report an unusually large attendance of students. We understand that the medical class of the Tulane University, of this city, is also much above the average.—*New Orleans Medical and Surgical Journal.*

THE SPINNING-WHEEL HAS BEEN PRESCRIBED AS A CURE FOR INSANITY.—It was introduced into the asylum at Douglas, Isle of Man, as something that might amuse the patients, and they forthwith became so interested in it, and in the idea of contributing to their own support by its use, that the direction of their nervous force was changed, and their condition greatly improved. Experiments are to be tried in other asylums.

DR. PLINY EARLE, the retiring superintendent of the State Lunatic Hospital, at Northampton, has a unique scrap-book in which he has preserved two hundred different envelopes received during his administration, spelling his name in as many different ways.—*Boston Med. and Surg. Journ.*

A RIPE OLD AGE.—Dr. Hipolito Fernandez Frutos, of Salamanca, Spain, has recently died at the age of ninety-three years. He was a professor at different times in the Universities of Salamanca and Valladolid, and was greatly esteemed by all who knew him for his intellectual attainments and natural good qualities.

RIGHT- AND LEFT-HANDEDNESS.—A correspondent writes in the *British Medical Journal* as follows concerning this subject: "The functional asymmetry which makes one hand stronger than the other must have some anatomical basis which ought to be discoverable; but no one yet seems to have detected the cause. Many a time have I gone over the unilateral structures of the body, to consider if any one of them was calculated to influence its own side for good or evil; but I was always accompanied in my search by this baffling forethought, that if I did succeed in finding some cause for a general excess of muscular nutrition in the right limbs, there would be a corresponding excess of nervous nutrition in the right side of the brain; an advantage which, by the decussation of fibres, would be transferred to the left side of the body, and things would be equal again. Yet, in spite of this difficulty, I have been continually haunted by the idea that it is in the innominate artery, if anywhere, that we are to find the solution of the mystery. The innominate secures for its own subclavian and carotid those advantages over the subclavian and carotid which arise direct from the aorta on the other side. A tube of a given calibre is more effective than two tubes of half that calibre; therefore, the innominate, besides serving as a kind of funnel-mouth to catch the stream, is a more effective channel than the subclavian and carotid together would be if arising from the aorta as two distinct tubes. Again, the innominate lies rather more in a direct line with the aorta than do the two equivalent vessels on the other side; wherefore the innominate would have the advantage of lying more directly in the set of the stream. And the advantage of being a little nearer the heart, even if infinitesimal, is on the same side. Thus the 'bend sinister' of the aorta, and the existence of the innominate artery, tend to increase the blood-supply of the arm and brain on the right side. This fairly accounts for a slight excess of muscular nutrition in the

right arm; and a slight excess, by provoking use, would induce further development. But the right carotid has the same advantage as the subclavian; how is it, then, that equilibrium is not restored by an excess of nerve-force being sent across to the left of the body from the right of the brain? When we observe that ponderous muscular power can coexist with a comparatively small brain, as in the elephant and boa, whereas a large brain with small muscle by no means implies muscular power, it seems fair to conclude that an increase of muscle produces more physical effect than an equal increase of nerve-matter, and that consequently the advantages of the innominate tell more on the muscles of the right arm than on the nerves of the left side of the body. But this only accounts for the superiority of the right arm; what can be said about the remainder of the right side? In the first place, not all the right side is superior to the left; next to the arm, it is mainly in the leg that 'dexterity' is discernible. In the next place, the superiority of the right leg is not nearly so marked as that of the right arm, and may be due to the fact that a sense of power in the right arm inspires a sense of confidence in all else that is right, whence results more frequent use, and consequent development. Also, the advance of the right arm often necessitates the advance of the right foot, as in sword-exercise. But in numerous other cases the left leg, if left to itself, displays a degree of forwardness which excites a suspicion that its inequality is not natural, but induced. I have asked a considerable number of the London Shoe-brigade which foot their customers usually present first, and the replies have been that the left is first presented, almost invariably. The foregoing theory can be easily tested in several ways. Abnormal cases are occasionally noted where there is no innominate artery, the right subclavian and carotid arising directly from the aorta, like their fellows on the other side. I think that one or more such irregularities were observed last year in the dissecting-room of University College, Liverpool. It would be interesting to learn if there were a history of left-handedness in any of those subjects. Also it sometimes happens that the normal position of viscera is reversed, and all the organs are found to have changed sides. One such case is preserved in the College of Surgeons, and within the last few months another was reported from America. Some of the facts connected with right and left are curious and interesting. If one offer the right hand to a European adult, the propensity to extend the right hand in return is so strong as to be almost a reflex action. A Bokhara sheik who suspected Wolff of being a Frank, applied the test of offering him his hand; fortunately for himself, Wolff did not grasp the hand, but responded with a salaam in correct Oriental fashion. But in children this propensity is either not yet developed, or else is overcome by an innate law of least action. I have tried the experiment of offering my right hand to scores of little children; they invariably give the left, which is nearest, and do not cross the right hand over. If I offer my left, they return the right, again swayed by a law of least action. In sliding on ice, my school-fellows used to put the right foot forward almost invariably. Though the word Benjamin means Son of a Right Hand, yet the tribe seems to have been notoriously left-handed. The name may have been euphemistic, like Euonumos and Aristera. Von Miklucho Maclay says that Papuans are always left-handed. I should very much like to know something about the Papuan innominate."

THE DIAGNOSIS OF PREGNANCY.—Dr. Rufus B. Hall, of Chillicothe, O., writes that Dr. E. H. Grandin was mistaken when he said, in his paper read before the Obstetrical Section of the Academy of Medicine, and reported in THE MEDICAL RECORD of January 23, 1886, that an intermittent rhythmical contraction of the uterus, as a positive sign of pregnancy, "is referred to by only one authority (Lusk), and by him very briefly." Mr. Lawson Tait attaches great importance to this sign in differential diagnosis. Dr. Hall writes: "In my presence at the Outdoor Department of the Birmingham Hospital for Women, in December, 1884, Mr. Tait was able by this sign alone to diagnose uterine gestation in a patient that had been sent there by her physician for the removal of what he supposed to be an abdominal tumor. In the fourth edition of his work on 'Diseases of the Ovaries,' p. 211, he says: 'I need not here describe the evidences upon which we base a diagnosis of pregnancy, and shall allude to one only in detail, because it is one but little known as yet; and it is a sign more valuable, perhaps, even than that derived from auscultation, in that it can always be observed, whereas the fetal heart cannot always be heard—I mean the rhythmical contraction of the uterus. If the hands be placed on the abdomen of a case of suspected pregnancy and a fluctuating tumor be felt, that tumor will become quite tense and like a myoma if the examination be prolonged for a few minutes. Then, again, it will become flaccid and fluctuating, and this alternation will go on rhythmically at varying intervals. Once this sign has been felt and recognized, I think it will be impossible for the observer ever again to be deceived by a pregnant uterus.'"

A CHINESE MATERIA MEDICA.—The work on materia medica of Lee Shee Chan is comprised in forty octavo volumes divided into fifty-two chapters. The introduction, divided into two chapters, fills no less than seven volumes. Then follow three or four volumes of lists of all the medicines used to cure disease, and after this the various articles are taken up singly and treated of in great detail. The last volume is devoted to a learned treatise on the pulse, which is the principal diagnostic aid at the Chinese physician's command. The properties of the articles discussed are considered in a very methodical manner, so that a student can turn immediately to any desired substance, and make himself familiar with its virtues at a glance. Thus the properties of the various parts of a horse are treated of under twenty-four heads, in which the qualities and efficacy of the viscera, hair-hoofs, and other structures are described most minutely.

PHYSICIANS' PRESCRIPTIONS AND DRUGGISTS' COMMISSIONS.—Dr. W. M. McPheeters, of St. Louis, writes: "Professor A. M. Wilder, of San Francisco, in closing a short communication on this subject, says: 'Is this evil confined to San Francisco? Does it not hold true of every large city of the country?' So far as St. Louis is concerned, I am happy to say that no such system obtains here. If it does, I, who have a pretty good knowledge of matters professional in this city, am ignorant of it. I do not believe that any respectable apothecary would offer such a bribe, or that any respectable physician would engage in such petty robbery of his patients." What has Chicago to say to this?

A GENUINE CASE OF FAITH CURE.—Dr. Robert T. Morris writes: "Not long ago, while I was seated in a country dentist's office, a farmer dropped in to have a tooth pulled. The tooth came out as hard as a sassafras-root, and the patient pranced around on one foot until the dentist said that he could stop the pain 'if the patient wished.' The patient was willing, and the dentist, taking up a dainty wad of cotton, dipped it in a solution of cocaine, and touched it for an instant to the region of blood, saliva, and pain. Then standing before the patient, with an expression of confident expectancy on his face, asked, 'Is the pain all gone?' The patient gave one glance at the countenance spread out before him, said that the pain had all departed, and began to talk cheerfully on some ordinary topic. Turning to me, the dentist remarked upon the exceeding value of cocaine in dental practice, and said that he believed it would come to be used by the general medical profession before long."

THE ORTHOPEDIC SECTION OF THE ACADEMY OF MEDICINE.—A meeting was held on January 29th, at the rooms of the Academy of Medicine, to organize a section

on orthopedic surgery. Dr. A. Jacobi, President of the Academy, was in the chair. Dr. N. M. Shaffer was elected chairman, and Dr. T. L. Stedman secretary, of the section. Dr. Samuel Ketch read a paper entitled "Remarks on Lateral Curvature, with Special Reference to its Occurrence in Children." The paper was discussed by Drs. A. Jacobi, L. A. Sayre, V. P. Gibney, A. B. Judson, and others.

THE PHILADELPHIA CLINICAL SOCIETY.—A stated meeting of the society was held on January 22d, with Dr. E. E. Montgomery, President, in the chair. The following officers were elected for the ensuing year: President, Dr. John B. Roberts; Vice-Presidents, Drs. Clara Marshall and Daniel Longaker; Treasurer, Dr. L. B. Hall; Recording Secretary, Dr. I. G. Heilman; Corresponding Secretary, Dr. Rebecca S. Hunt; Reporting Secretary, Dr. Mary Willits. Dr. John B. Roberts reported a case in which there was a transudation of fluid on the cheek, in the region of the parotid gland, during mastication. On examination of the buccal opening of Steno's duct a muco-purulent fluid was expressed. A probe was introduced for an inch or more into the duct, and the canal was stretched. The following day the patient stated that the transudation was less profuse. The canal was again dilated with the probe, but on neither occasion was a calculus found. The speaker believed the exuded fluid to be saliva, but the patient returned to his home in the country before an examination to determine the fact could be made. Dr. Henry Hartshorne remembered having seen a case of this nature when he was a student of medicine, but he could not say whether the exudation took place only during mastication or not. Dr. Clara Marshall said that Ringer, in his "Handbook of Therapeutics," mentioned a case of excessive sweating of both cheeks, occurring only during mastication, which was cured by the use internally of ten drops of the tincture of belladonna thrice daily. She would not say, however, that in Dr. Roberts' case the fluid might not have been saliva.

THE NEW YORK ORTHOPÆDIC DISPENSARY.—The report of this institution for the year ending September 30, 1885, shows a total of 1,722 patients treated in the dispensary, and 48 cared for in the wards. There were 38 deaths in the outdoor department and 1 in the hospital. Six hundred and sixty-four braces were supplied to patients, in addition to plaster-of-Paris, felt, and other temporary forms of apparatus. The days of hospital care were, for free patients, 6,538; for paying patients, 1,437; total, 7,975. There were 10,252 visits made by patients at the dispensary, and 768 visits made by the surgeons at the patients' homes. The managers are very desirous of making the hospital department wholly free, and they appeal to the charitably disposed to aid them in attaining this end by endowng one or more beds, or by becoming annual subscribers.

THE PENALTY FOR MALPRACTICE IN CHINA.—For engaging in the practice of medicine in China no license is required, but the lot of the unsuccessful physician is not one to be envied. The following is the two hundred and ninety-seventh section of the penal code which deals with these unlucky practitioners: "Whenever an unskilful physician, in administering medicines or using the acupuncture needle, proceeds contrary to the established forms, and thereby causes the death of the patient, the magistrate shall call in other physicians to examine the medicines or the wound. If it appear that the injury done was unintentional, the practitioner shall then be treated according to the statute for accidental homicides, and shall not be allowed any longer to practise medicine. But if he have designedly departed from the established forms, and have practised deceit in his attempts to cure the malady, in order to gain property, then, according to its amount, he shall be treated as a thief; and if death shall ensue from his malpractice, then, for having thus used medicine with intent to kill, he shall be beheaded."

PRIORITY IN YELLOW FEVER INOCULATION.—Dr. Freire, of Brazil, is generally credited with having been the first to conceive the idea of inoculation as a means of prevention of yellow fever. But Dr. Carmona y Valle, of Mexico, claims the honor of precedence, having published an article on this subject in the *Gaceta Médica*, the official organ of the Academy of Medicine of Mexico, on October 26, 1881. The latter has very recently published an exhaustive monograph on yellow fever, dealing especially with the etiology and prophylaxis of the disease, which is a most valuable addition to the literature of this subject.

VACCINATION IN CHINA.—It is stated by Mr. E. C. Bridgman that vaccination was entirely unknown to the Chinese until introduced in 1805 by Mr. Alexander Pearson, surgeon of the East India Company, who both vaccinated numbers himself and wrote a small tract in explanation of the theory and art. This tract was translated into Chinese by Sir George Staunton. From that time an efficient vaccine establishment was maintained at Canton, first under the care of Mr. Pearson, and subsequently under a native gentleman, He Qua, who was initiated and well instructed in the business by the founder of the institution. From Canton the practice spread into several, if not most, of the provinces of the empire, and the explanatory tract was also widely circulated, although the Chinese publishers took very good care to suppress all evidences of its foreign origin in order not to offend the prejudices of the natives.

CORYZA OF THE NEW-BORN.—Dr. Semchenko claims to have obtained excellent results from the use of cocaine in infantile coryza. He instils two drops of a two per cent. solution into the nasal cavity six times a day, and says that four days usually suffice to obtain a perfect cure.

VOMITING OF PREGNANCY.—Dr. Federico Léon reports, in the *Gaceta Médica Catalana*, a case of obstinate vomiting of pregnancy, which, after all the usual remedies had been tried without success, was promptly relieved by rectal injections of hydrate of chloral.

TREATMENT OF CARDIAC DYSPNŒA.—M. Sée recommends the following formula: Tincture of iodine, one-half drachm; syrup of horse-radish and syrup of poppies, of each two ounces. Three teaspoonfuls or more may be given per diem in cases of dyspnœa associated with heart disease. The syrup of horse-radish disguises very effectually the taste of the iodine.

UMBRELLAS AND ABDOMENS.—A certain man in Bavaria, whose ordinary occupation was that of repairer of umbrellas, was consulted in a friendly way by a woman who had an intra-abdominal tumor. He said he could repair her just as well as he could an umbrella, and accordingly, his wife assisting, he cut open the poor woman's abdomen with a razor, found a tumor, cut that out, and then sewed up the wound and smeared it with some "healing salve." The woman did not do as well as an umbrella would have done under similar circumstances, and it was found necessary to call in a physician. The latter caused the arrest of the would-be surgeon and his wife. The patient is now improving.—*Allgemeine Medicinische Central-Zeitung.*

DEATH OF DR. DECHAMBRE.—The death is announced of M. Amédée Dechambre, editor-in-chief of the *Gazette Hebdomadaire de Médecine et de Chirurgie* and of the medical encyclopædia which bears his name. The cause of his death was cerebral apoplexy. He was seventy-four years of age, but was in the enjoyment of excellent health at the time of his seizure.

DIAPHORETIC BOLUSES.—The following combination is said to be useful: Sublimed sulphur and bitartrate of potassium, each thirty grains; powdered resin of guaiac, fifteen grains; to be divided into four boluses. These may be taken at intervals during the twenty-four hours when it is desired to maintain a more or less profuse diaphoresis.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 10 NEW YORK, MARCH 6, 1886 Whole No. 800

Original Articles.

ME SURGICAL POINTS IN THE TREATMENT OF PERITYPHLITIC ABSCESS.[1]

By WILLIAM T. BULL, M.D.,

NEW YORK.

THE following case, in which a perityphlitic abscess was opened only forty-eight hours after the symptoms became acute and the patient took to bed, will serve as an introduction to the remarks I have to offer on the surgical treatment of this disease.

CASE I.—On December 5, 1885, I visited with Dr. Kinnicutt a gentleman, thirty years of age, who was suffering from very severe pains in the right iliac fossa, radiating down the thigh, with a temperature of 103° and pulse of 120. The abdomen was normal on examination except in the right iliac region, where over an area two inches square there was dulness and exquisite tenderness (so that percussion was very unsatisfactory), and a sense of fulness or increased resistance on palpation. These were the only signs of an exudation. He had been in bed but forty-eight hours, although for ten days previously he had experienced a steady dull pain in the inguinal region, with occasional paroxysms which were more severe. He was constipated for a week during this time, but the bowels moved naturally three days before I saw him. His symptoms were not sufficiently acute to deter him from a week's railroad travel, and on his return from this they presented the features mentioned above

Dr. Kinnicutt had suggested exploration, and it was done at once. The needle, thrust to a depth of three inches directly backward into the iliac fossa, produced no pus; nor was any obtained when it was thrust in front of and behind this site. A longer needle was then pushed from a point behind and above the anterior superior spine, toward the middle of the fossa, a depth of four inches, and through it the syringe drew some very offensive and bloody pus. The incision was made a few hours later, under ether, above and to the outer side of the middle of Poupart's ligament. The tranversalis fascia was thickened and grayish in color, the muscular layers absolutely healthy in appearance. An incision through the fascia evacuated about an ounce of pus, very dark from blood, and of characteristic odor. No foreign body escaped, and as the time of operation was so early I did not deem it wise to thrust the finger into the abscess cavity; but an elastic bougie showed that it extended from the centre of the incision about two inches toward the symphysis and three or four toward the lumbar region. The pain and fever disappeared next day. The rubber drain was removed on the tenth day, when the cavity was reduced to a sinus four inches deep, extending toward the loins. This was slow in healing, though its orifice was dependent in the erect position. A foreign body was detected in it at a depth of three inches, at the end of six weeks, and removed with dressing forceps. It proved to be a calculus, doubtless formed in the appendix. The sinus closed in a week. The concretion is as large as a white bean, calcareous in composition, the salts being arranged in concentric laminæ, and with no foreign body as a nucleus. Chemical examination has not yet been made.

In this instance the operation was performed at an earlier moment than in any case that I have seen recorded, and I think that the thorough exploration with the needle and hypodermic syringe was the chief factor in bringing it about. I have several times withdrawn pus from the iliac fossa, through a puncture made from the lumbar region downward and forward toward the middle of the iliac fossa, when punctures directly into the fossa or the tumor occupying it were fruitless. A good-sized needle is indispensable (No. 3 or 4 of the French scale for urethral instruments), and a "tight" syringe. These punctures are harmless, and should be made into the lumbar region as well as the iliac fossa. We are all familiar with their value as a means of diagnosis, but I would like to emphasize the advantage of making such thorough explorations as I have described.

But I desire to claim something more for the needle, and that is, that it is the only trustworthy means of ascertaining the presence of pus. Both the general symptoms and the local conditions mislead us in this respect. There are patients who are attacked with high fever, severe pain, chill, and even sweating, whose inflammation undergoes resolution; and there are others in whom the abscess reaches great proportions with trifling disturbance.

Dr. Robert F. Noyes, in a paper read before the Rhode Island Medical Society in 1882,[1] mentions a case reported by Dr. Edson, where the formation of abscess was "indicated by chills, pointing, and a temperature of 103.4°. The case terminated suddenly by absorption. There was no discharge from the rectum, and no external opening." In the following case I was lulled into a feeling of security by the absence of constitutional symptoms, and allowed a week to elapse before making an exploration with a needle, while an abscess of huge proportions was present all the time.

CASE II.—On August 28, 1885, I saw with Dr. U. G. Hitchcock a gentleman, aged fifty-nine, who had been sick for six weeks. His illness commenced with chilly sensations, fever, and slight pain in the iliac fossa, where there was found tumefaction. There was constipation, and the symptoms continued till, at the end of about two weeks, he was relieved of a mass of impacted fæces. Then he improved so as to be able to walk about, but there remained a slight pain in the iliac region, an evening temperature of 100° to 100½°, pulse of 90 to 100, and on my first visit there was a distinct tumor in the iliac fossa, not very tender, not fluctuating, giving dulness over an area as large as the palm of the hand. The abdomen was elsewhere normal, the abdominal wall over the tumor not involved, and the bowels moved naturally, and only a dull pain was complained of. But there had been no improvement for some days, and the general debility was sufficient to keep the patient in his room. I advised waiting a few days before making an exploration. A week later the condition was unchanged. A large hypodermic needle was introduced through the same puncture, thrust backward toward the brim of the pelvis directly downward, and also forward toward the symphysis. From the latter situation a syringeful of pus was drawn. The following day through the usual incision, three inches long, an abscess was opened, which contained at least a pint of pus. Its cavity reached forward beyond the line of the rectus muscle and backward into the connective tissue behind the ascending colon. There was no foreign

[1] A paper read before the Practitioners' Society of New York, February 5, 1886.

[1] Trans. of the R. I. Medical Society, 1882.

body seen. It healed completely in two months, but the patient was much prostrated in the fourth week by a pleuro-pneumonia of the right lung. This was succeeded by an arthritis of the first right metatarso-phalangeal articulation and a periostitis of the right eighth rib, from which he is slowly recovering.

These considerations lead to this conclusion: That in perityphlitis the general symptoms and the local conditions may furnish valuable indications of the presence of pus, but thorough exploration with the needle is the best means of diagnosis. Dr. Sands,[1] in 1880, expressed the same view. "Everything depends on an exact diagnosis, . . . and I would suggest a more frequent employment of the aspirator, as affording the most reliable test at our command for purposes of diagnosis."

Opening into the bowel has generally been followed by recovery; but it is sometimes followed by external opening, or burrowing of the matter into the lumbar region, or into some viscus as the bladder, for instance. In a collection of 67 cases which I made for an inaugural thesis in 1872 (*New York Medical Journal*, September, 1873), I found 15 in which the abscess burst into the cæcum. In 10 the cæcum alone was invaded, and 9 recovered. In 5, after the discharge into the bowel, external opening occurred three times with two deaths, and once into bladder, and once into bladder and externally as well. The two last cases recovered.

This tendency of the pus to burrow has not been seen after external opening by operation. The sinus left is stated by all writers to have closed promptly. In view, then, of the liability to continuance of the suppuration after a discharge of pus has taken place from the bowel, I would urge the wisdom of keeping careful watch over these patients, and to explore the lumbar region promptly and repeatedly with a needle, if the general condition do not improve; and I find in the uncertainty of the result after opening of the abscess into the bowel another argument in favor of the operation at the earliest possible moment.

The following case is one in which a large lumbar collection, which gave rise to dangerous symptoms, followed two discharges of pus per rectum. The local signs of abscess were quite masked by the presence of gas in the abscess.

Case III.—A gentleman, aged sixty, rather corpulent, with thick abdominal walls, was attacked February 28, 1883, with violent pains in the abdomen, a sharp chill followed by a temperature of 107°, and sweating. He was constipated, and vomited a number of times. The following day the vomiting stopped, the fever fell to 103°, there was general abdominal tympanites, the constipation continued, and the pain became located in the right iliac fossa, which was tender. There was no tumor. I saw him with Dr. George E. Moore, and called Dr. Kinnicutt. We regarded the case as one of perityphlitis, or typhlitis from impaction of fæces. With rest in bed, opium, and a mild laxative, there was marked improvement after a few days. The pain remained, but was less severe, the fever was only 100° at evening, the bowels moved, and on the tenth and twelfth days there was considerable pus in the stools. All the local signs of inflammation in the iliac fossa disappeared. Between the twelfth and seventeenth day, however, he grew worse. The fever remained about 101° in the evening, with a rapid pulse, and occasional delirium at night. The tongue was dry and furred, and the prostration extreme. No vomiting occurred, and the bowels acted after calomel was given; but the tympanites was very great. Locally there was nothing abnormal to be elicited save a slight tenderness in the lumbar region, and a suspicion of œdema of the subcutaneous tissue. Once or twice the integument showed a patch of erythema, which disappeared in a few hours. On the eighteenth day Dr. Draper saw the patient, and we made a puncture with a *small* aspirator-needle, which showed nothing. Through a large needle stinking pus was withdrawn. An incision was made on the nineteenth day, horizontal in direction, and nearer the crest of the ilium than the ribs. About two pints of pus came away, with several connective-tissue sloughs two or three inches in length, but no concretions. The cavity of the abscess extended nearly to the symphysis. With drainage and irrigation with weak carbolic solution it healed completely in four months. For a week or ten days fæces in small quantities escaped through the sinus.

The necessity of opening the abscess early—and long before fluctuation has occurred—has been insisted on with justice by a number of writers. I have but one suggestion to make on this point, and that is that in determining the *time* to operate, the *duration* of the illness should play a rôle subordinate to that of the results of exploration with the needle. It is certainly undesirable to operate too early, when the pus may not have formed, or the inflammation be going on to absorption. It is equally undesirable to defer the incision and subject the patient to the risks of an unfavorable course on the part of the pus. A sort of "time allowance" has been fixed by some surgeons. Gouley fixes the seventh or eighth day as the proper time for incision; Weber, "not beyond the ninth or tenth;" Sands,[1] from the twelfth to the eighteenth day. From this discrepancy it is obvious that the "time allowance" is of no use, and that it will be far wiser to be guided by the evidence afforded by *needle exploration*.

It may be well to mention the results of Dr. Noyes' investigation of one hundred cases of abscess, treated by incision, as the paper may not be accessible to all. Of these one hundred cases, eighty-five per cent. recovered. The mortality was but fifteen per cent. In the sixty-seven cases collected by myself in 1872, where no early operation was done, the mortality was forty-seven per cent.

I have yet to hear of a single operation which has led to bad results. Even when no pus was found, the incision has proved of use in relieving the pain and fever, and diminishing the tension, and directing the course of the pus toward the surface. Several such cases have been reported. In one instance I found pus with the needle, but could find none on incising the abdominal wall, and none appeared subsequently, except from the wound.

Case IV.—On January 27, 1885, a boy, aged seventeen, was admitted to my wards at the New York Hospital, who, two weeks before, had been suddenly taken with pains in the abdomen and vomiting. This was followed by fever, and there was great pain in the right iliac fossa and lumbar region. The bowels were regular, and the appetite good, but the pain and fever continued in spite of medical treatment. When admitted he had pulse, 120; temperature, 103° F., and the region just above the crest of the ilium on the right side was tender and painful. The abdominal wall was normal; there was no bulging, but an increased sense of resistance on palpation, and dulness on percussion between the crest of the ilium and the free margin of the ribs. There was trifling œdema of the subcutaneous tissue. A hypodermic needle was introduced just behind and above the anterior superior spine of the ilium, and a half-drachm of very offensive pus drawn out. Under ether an incision three inches long was made, parallel to the iliac crest and down to the peritoneum. Several punctures of this membrane in different directions discovered no pus. The wound was stuffed with iodoform gauze and carbolized fomentations applied. The following day there was no more pain, the temperature fell to the normal, and even the swelling and tenderness were not perceptible. No matter was discharged in the stools. The wound healed in two weeks and a half.

[1] Annals of the Anatomical and Surgical Society, Brooklyn, vol. ii., No. 7, 1880.

[1] Noyes: Loc. cit., p. 21.

In this case the change in the patient's condition after the incision was most marked, and I see no reason to criticise it. In fact I feel convinced that in the aggregate of cases more good than harm would be done by an early incision, even if the needle detected no pus, provided only that the surgeons were led on by the indications furnished by the general and local symptoms.

Attention has been called by Dr. Burchard, of this city, to the cases of perforative typhlitis in which the cavity of the peritoneum is invaded early, with fatal result. Laparotomy has been rightly considered desirable in such cases. The following case bears on this matter.

A laborer, aged twenty-five, was admitted to my service at the New York Hospital, in this condition. His pulse was 120; respiration, 30; temperature, 103°, with considerable general tympanites and great pain referred particularly to the right side and iliac fossa, and radiating down the thigh. The right iliac fossa was very tender and offered an increased resistance on palpation. It was not dull. Two days before he had a chill, followed by high fever, and vomiting. He was constipated, but the bowels had moved once after an enema. The needle detected pus only in the lumbar region, where there was no tenderness. An incision was made there down to the very wall of the colon, and but a drachm of offensive pus found behind the colon. The finger was not introduced, but a probe, and a bougie as well, did not detect any softened tissue in any direction farther than an inch. The symptoms of general peritonitis persisted, and he died in two days. The autopsy disclosed a general suppurative peritonitis, perforation of the appendix in two places near the cæcum, and fæces in the connective-tissue or the iliac fossa, which was softened and necrotic as far up as the liver, but not yet broken down so as to form much pus, *and nowhere communicating with the peritoneal cavity*. The incision fell in the middle of this tract. In this case inflammation of the peritoneum, and of the connective tissue of the iliac fossa, must have been nearly coincident; and it is doubtful in my mind, since the process had involved so large an extent of tissue, if any operation would have effected a cure. But if a similar case should occur to me again, I would certainly pursue the investigation at the time of operation to the point of seeing the appendix and ascertaining its condition. I am supported in this conviction by the evidence of a somewhat similar case under the care of Dr. Richard Wiener, in which, after the symptoms of perityphlitis had lasted a day or two, those of general peritonitis supervened. The patient, a boy, aged fourteen, lived three weeks. On autopsy there was found general peritonitis, and an abscess behind the cæcum and ascending colon, which contained a pint or two of fluid fecal matters. The appendix was perforated in two places, but there was no communication between the abscess and the peritoneal cavity.

THE PREVENTION OF MAMMARY ABSCESSES.—Occasionally one is called to cases where abscess is on the point of forming, either from neglect or injudicious treatment, and where, consequently, something more is required. Under such circumstances, Mr. Philip Miall (*British Medical Journal*, November 21, 1885) states that he has repeatedly seen all the symptoms of a hot, heavy, inflamed breast, with redness of skin, throbbing and deep-seated pain, pulse being 120 in the minute, all disappear in the course of a few hours under fomentation of hot water and ammonia. An ounce of carbonate of ammonia is dissolved in a pint of boiling water, and when solution is effected the temperature will scarcely be too high for fomentation with cloths dipped in the liquid. These must be assiduously applied for half an hour at least, and repeated for two or three hours if necessary. It is well to protect the nipples, though Mr. Miall states that he has never known them to be injured. Relief is immediate, and more than three applications are seldom required.

THE MANAGEMENT OF BREECH PRESENTATIONS.[1]

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ALL writers in obstetrics admit that the mortality in breech presentations is great, very much greater than that of cephalic, and equalling that of the much less frequent presentation of the face. Up to the time of Ambrose Paré the presentation of the pelvic end of the fœtal ovoid was looked upon as preternatural, and cephalic version was always performed. Naegeli has, however, well shown that though attended with much danger to the child the risk to the mother was not greatly increased, and that the mechanism was strictly analogous to that of the vertex.

The pelvic extremity offers at the superior strait about once in 35 cases. Naegeli says that out of 100 labors 94 or 95 present by the head, 4 by the pelvis.

Dr. Rigby, in an analysis of 71,578 cases, found the breech present once in 78 cases, the feet 1 in 105 cases; the mortality of the infant 1 in 3.8, when the breech offered entire; when the feet were first it was 1 in 2.8.

The statistics of Madame La Chapelle show that in 804 presentations of this class 102 children are born feeble, and 115 are still-born, a large number of the former dying shortly after birth; the proportion of deaths to the whole being rather more than one-seventh, while in 266,698 vertex positions there were only 668 still-born, which gives one in thirty. When the buttocks advance first the number of deaths is 1 in 8½, feet presentations 1 in 6½, and for the knees 1 in 4½, or not quite one-fourth.[2] The breech may present entire, or one or both feet descend, the knee may also present, though that is very rare. When, at the beginning of labor, before the os is fully dilated, the presentation of the foot occurs, the results are unfavorable.

Professor Dubois, in an analysis of 80 cases observed by him, found 54 ordinary, and 26 in which the feet dedscended in advance, the presentation of the knees not being seen once.

The causes we find stated for the presentation of the pelvis are: contractions of the pelvis, excess of liquor amnii, allowing of great mobility of the fœtus, violent movements on the part of the patient, and peculiar formation of the lower segment of the uterus. It is remarkable the frequency of these cases in premature labor and multiple pregnancies.

Professor Simpson, from the observations of Dubois at the Maternity Hospital, has constructed a table, showing the presentation of the child at different periods of pregnancy which illustrates this point.

Period of Pregnancy.	Total cases.	Presentations.		
		Shoulder.	Breech.	Head.
Before end of sixth month.....	121	5	52	65
During seventh month.....	119	6	31	82
During eighth and ninth months.	96	2	22	72
At full term.....	100	1	3	96

Those stated in the third line only represent cases where the child was born dead, and show how frequently, the child being dead, the loss of the tonicity of the spine and flaccidity of the tissues causes malpositions.

From this table Professor Simpson demonstrates that there is a constant tendency after the sixth month of pregnancy for the head to present.

From the statistics of Hegar and Spiegelberg, of 33,264 children 910 were the result of multiple pregnancy, and 659 were premature; of the former 227, or 25 per cent., and of the latter 148, or 22.4 per cent., were delivered by the breech, though the general average of breech pres-

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[1] Read before the Section in Obstetrics, New York Academy of Medicine, February 25, 1886.

[2] Cazeaux and Tarnier, p. 360.

entations to the entire number of births is only 2 to 2.5 per cent., or about 1 in 40.[1]

The breech, composed of the nates, feet, and knees, may present, according to Naegeli, in two primary positions, the dorso-anterior and the dorso-posterior, the latter less frequently than the former. Of 161 cases occurring at Heidelberg, 121 were dorso-anterior, 40 dorso-posterior.

The positions of the breech are analogous to those of the head, the sacrum being at the brim in generally one of four positions. The dorso-anterior with the left hip to the front and right, the sacrum to the left acetabulum, the right hip to the left posteriorly, the long diameter (bis-ischiatic) of the fœtus in the right oblique of the mother's pelvis is the most common, and is generally classed as the first position. Succinctly the mechanism is: First, under the influence of uterine contractions the breech molds to the contour of the brim, and very gradually dilates the cervix, the long bag of waters formed by the irregular character of the breech being very inefficient in this duty, so that the first stage of labor is usually very protracted. The breech now descends to the floor of the pelvis, the left hip being rotated to the pubic arch by the guidance of the right anterior ischial plane, while the right hip is guided to the hollow of the sacrum by the left posterior ischial plane. The child bends in a sigmoid form on its left side, the right hip is forced to the vulva and, unless the perineum is unusually resistant, is born first, the left hip being retarded by pressure on the pubes. The body now descends, and with the extension of the lower limbs is born. The shoulders descend in the same oblique diameter, perform the same movement of rotation, and from the arrest of the left shoulder at the pubes the right shoulder is caused by the pains to sweep over the perineum. The arms not infrequently at this stage slip up during the birth of the trunk, and are disposed at the side of the head. If the pelvis be contracted, or the head be not thoroughly flexed on the sternum, this is particularly likely to occur, and the arms may then be found behind the head on the back or neck, and cause a serious obstacle to delivery. The head descends in the right oblique diameter, performs the opposite rotation to that of the breech, turning from left to right under the arch of the pubes, the sub-occipital point becomes fixed, and under the influence of powerful uterine contractions, and particularly contractions of the voluntary muscles of the floor of the pelvis and vagina, the forehead is extruded over the perineum. Since the propulsive energy of the uterus acts at great mechanical disadvantage on the head, it is difficult to see how, but for the contractions of the vagina and pelvic floor, any pelvic labor could possibly be completed without the interference of art.

The second pelvic position being dorso-anterior is similar to the first, the rotation being, however, in the opposite direction.

The third position being dorso-posterior with the sacrum to the right sacro-iliac synchondrosis differs in its mechanism from the first and second in the greater rotation needed to bring the right hip and occiput to the pubes, which is the natural termination. Failing in this, the occiput rotates to the hollow of the sacrum, causing the labor to be prolonged and difficult. If the head descends without interference, the pains being strong and the pelvis large, the occiput is retarded by the perineum at the outlet, the chin, forehead, and face are forced out by a movement of flexion, the back of the occiput pressing on the perineum as a fulcrum. In rare instances the chin is caught on the back of the pubes; the head is then delivered naturally by a process of extension, the depression in front of the neck being the fulcrum; the occiput passes over the perineum, followed by the vertex and face.

The fourth position is analogous to the third, and generally is converted into the first as the third was into the second; but the same rotation of the occiput into the hollow of the sacrum may occur.

The management of the ordinary breech presentation consists in the first stage in the delaying, as far as possible, of the rupture of the bag of waters, so that the cervix may dilate fully to the size of the breech, and especially become soft, yielding, and dilatable.

This may be accomplished by avoiding unnecessary examinations which cause powerful voluntary contractions, and the finger-nail may lacerate the membranes. The membranes may be supported, and at the same time the vagina dilated by a full-sized Barnes' dilator or a Braun's colpeurynter in the vagina. As long as the breech descends we do not interfere, as the more full the dilatation of the parts the safer and more rapid will be the subsequent passage of the head. So soon as the trunk and lower limbs are born the critical period for the child approaches. Compression of the funis by the hard, unyielding head against the pelvic wall is likely to occur, and if complete and continuous, rapidly destroys the child by interrupting the placental circulation. We should now pull down a loop of the cord and pass it to the sacro-iliac synchondrosis at the side of the child's head. The child's limbs and trunk should be enveloped in a warm cloth and the pulsations of the cord watched; if interrupted or feeble in its pulsations we must immediately relieve the pressure, or the child will be lost.

If the head descends properly, and the pains are strong, we support the trunk with one hand and follow the uterus down with the other, making slight pressure to excite the uterus and voluntary muscles to contraction. The flexion of the head may be aided by raising the trunk upward. The arms are generally liberated in advance of the head.

If the pelvis be ample, the child premature or below the average, and the pains strong, the labor is not difficult; in fact, excepting a retardation of the head at the perineum, it is generally rapid, but if the child is mature and well developed a breech labor is by no means easy.

The difficulty arises from the nature of the presenting part, the condition of the uterus, and the position of the child. There are two principal conditions of breech presentation where the labor may become arrested or difficult.

Whether the position be dorso-anterior or dorso-posterior, the legs of the child may be disposed in two different ways. In the most common case, the legs flexed on the thighs approximate the feet to the nates, so that they become readily accessible; in the less frequent case, the limbs are extended upward over the front of the child so that the toes are near the face.

The breech is not nearly as large as the head, and though, as Madame La Chapelle states, its softness enables it to mould better to the brim, yet this very fact diminishes its dilating power over parts through which a larger body, the head, must pass. Indeed, the fœtal ovoid may be looked upon, as Prof. Barnes in "Obstetric Operations" (p. 173) well states, as a wedge. The breech, forming the apex of the wedge, does not open the cervix widely enough to let the base, formed of the head and arms, which often exceeds the capacity of the brim in mere bulk, to pass. Again, the rotation of the child on its long axis is difficult. The condition of the uterus must also be considered. The cervix only dilates proportionate to the body traversing it. The uterus contracts firmly on the parts in its cavity, but as the base cannot descend, a state of spastic rigidity in the cervix ensues, which, encircling the wedge about its middle, tends to lock up the head and impede both descent and rotation. A condition of inertia is also likely to be present.

If traction be now resorted to by means of hooks, the fillet, or forceps, and unsuccessfully, as it is likely to be, the apex is dragged into the pelvis, the cavity more tightly filled, the compression of the cord is increased, and the uterus has become more irritable. The only safe means

[1] Spiegelberg: Lehrbuch der Geburtshülfe, p. 140.

for the child and mother out of this difficulty is to bring down the foot.

The use of the blunt-hook is difficult; it is apt to slip out of the groin on to the thigh, and fracture ensues on traction, it contuses the soft tissues and may lacerate the femoral vessels. If the child be living the blunt-hook should not be employed.

The fillet (formed of a skein of silk or a silk handkerchief) may be guided up over the groins by an elastic catheter or by Bellocq's sound, and affords a good hold for traction, but it may also cut into the tissues, and is not powerful enough to overcome the difficulty. The use of the fingers in the groin, as recommended by Smellie, a procedure of much service when the breech is low in the cavity, or to overcome the resistance of a rigid perineum, is of doubtful utility.

The obstetric forceps has been recommended, though condemned by most authorities. Hohl says the obstetric forceps to the breech is neither necessary nor effectual. Professor Lusk[1] says: The experiences of Hueter and Hooke have been favorable, though the latter only advises it where the breech is detained in the cavity, or at the outlet by the perineum." The forceps is designed only for the head, its cephalic curve does not adapt it for traction on the breech, and may injuriously press on the abdominal viscera.

The performance of cephalic version, as recommended by Spiegelberg, in the interests of the child, would only be possible in the first stage, before the waters had ruptured, and before the breech had become wedged in the brim or cavity. Even moderate contraction of the pelvis would contra-indicate it, since Professors Simpson and Thomas have demonstrated that the head can pass through the pelvis with less difficulty when brought down base first, this being due to the lateral pressure on the mobile parietal bones, causing the sutures and fontanelles to overlap and collapse. Again, Professor Barnes has shown that in head-last labors, with any contraction of the pelvis, the head is rarely or never seized in its widest transverse diameter, but at a point anterior to its greatest width, that is, in the bitemporal diameter, the biparietal and occiput finding ample opportunity for moulding in the freer space left at the side of the promontory. It may therefore be considered as demonstrated that the head coming base first passes the contracted brim more easily than coming crown first. And if the head comes through more easily it may be inferred that the child has a better prospect of being born alive.

These observations I believe are pertinent to all head-last labors.

To make an error in mensuration of a mother's pelvis, or the presence of a little larger sized child than the average, would in many cases condemn the child's life by craniotomy, after failure with the forceps, when the proper treatment might have saved it. I have seen many cases lost by the delay incident to the employment of these measures, before their inefficiency was demonstrated. I have never needed to apply the forceps to the breech at the brim. The clear indication is to break up or decompose the obstructing wedge. This is done by bringing down one foot.

Having determined the position of the breech in relation to the pelvis by the ordinary diagnostic points, sacrum and anus behind, the genitals in front, and the ischiatic protuberances on either side, the hand is passed into the os uteri in front of the breech, where the feet lie. Seize one by the instep and bring it down. Generally the breech will soon descend. One foot is all that is necessary, as the breech still retains its rotundity and the cord is better protected than when both feet are brought down. The foot nearest the pubes is the best, as traction, if necessary, can more easily be exerted. If the case be not urgent from other complications it may now be allowed to proceed naturally. Where the feet are extended up to the face over the front of the child the operation is much more difficult. If the breech fill the brim or is forced into the cavity, but little space is left for the operator's hand, and in this case the hand must be passed fully to the fundus uteri to reach the foot. No ordinary case of version involves passing the hand so high. Here it is essential that anæsthetics be given to the surgical degree, the rectum and bladder emptied, and the patient placed on her back.

The hand is gradually and gently passed by the breech that one being used whose palm will touch the abdomen of the child, until the foot be reached, preferably the anterior, when it is seized by the instep and drawn down so as to flex the leg on the thigh; and in withdrawing the hand bring the foot out of the uterus and vulva. During the operation the uterus is steadied by the other hand or by an assistant. The case may now be left to follow the ordinary mechanism of breech cases. If inertia uteri be present, or resistance of the soft parts, or if prompt delivery be demanded in the interests of mother or child, we have attained, in the hold on the leg, a security for the further progress of the case.

The operation of extraction of the breech may be divided into three acts: Drawing the trunk through the pelvis, liberation of the arms, extraction of the head.

1. Traction on the leg should be carefully made, coincident with the pains, downward, and backward in the axis of the brim, external pressure being made by an assistant till the breech has fairly entered the cavity; when the buttocks appear at the vulva, raise the leg toward the abdomen to release the posterior hip. When the breech is delivered, the cord should be looked after, the pulsations carefully watched, and if not feeble or interrupted, it should be placed at the sacro-iliac synchondrosis. The trunk should is kept warm by enveloping in a towel, and when traction is made, should be held lightly to afford opportunity for rotation of the shoulders.

2. Liberation of the arms. Liberation of the arms may be necessary if the pelvis be at all contracted, and also if traction on the trunk be too rapid or has not been accompanied by external pressure on the uterus.

The sacral one is most accessible. Lifting up the body of the child toward the pubes causes the sacral shoulder to descend, when with the fingers the arm is brought down over the front of the child. The pubic one is caused to descend by reversing the manœuvre; carry the child's body backward over the coccyx. This brings down the pubic arms. Should this fail where the arms have been displaced backward, grasp the child's body above the hips and rotate it a little backward; the arms are prevented by friction on the brim from following the trunk in its rotation; the pubic arm is thrown across the breast, and now can easily be released.

The sacral arm is freed by the same manœuvre, but the rotation must be made in the opposite direction. Care should be taken that these axial turns be limited, or the head not following the trunk the spinal cord may be compressed by the rupture of the atlo-axoid articulation.

3. Extraction of the head. The mere friction of the child's body on the bed, as well as the loss of the expulsive power of the uterus, from its cavity being emptied of all but the head, and the subsidence of pain due to a protracted labor, demand the aid of the accoucheur. Besides, this is the stage of chief danger from compression of the cord.

Where the head has entered the pelvis and the only resistance to be overcome is that from the floor of the pelvis and the perineum, Smellie's method may be employed. Wrap the trunk of the child in a warm napkin and place it astride the arm; pass the hand into the vagina, the middle and index fingers on the canine fossæ at the side of the nose, and at the same time make pressure upward by the fingers of the other other hand on the occiput. Now raise the trunk of the child over the abdomen of the mother; the head flexes around its suboccipital point, the face thereby being carried over the perineum.

[1] Science and Art of Midwifery, p. 139.

If sufficient flexion be not obtained the fingers may make pressure on the alveolar process of the lower jaw, making traction at the same time on the occiput. Where the occiput lies in the hollow of the sacrum, the chin should be flexed by the fingers, and with the back of the child on the operator's arm the traction should be made downward to the coccyx; the head flexes around, the occiput resting on the perineum and the face is born.

Smellie's method may be employed, the head being at the brim as recommended by Schroeder.

The Prague method, Scanzoni's, consists in seizing the feet with one hand while the fingers of the other hand are hooked over the shoulders. Traction is made downward in the axis of the brim simultaneously by both hands—external pressure on the head being made by an assistant. As soon as the head enters the cavity the extremities of the child are raised over the mother's abdomen, the hand on the shoulders acting as a fulcrum, the friction of the occiput on the pubes forces the face to descend into the hollow of the sacrum and sweep over the perineum.

In all cases of breech presentation the forceps should be at hand to extract the after-coming head. Care should be taken in its application that the cervix be not lacerated during its introduction. At the outlet it should be applied under the abdomen of the child, occipito-anterior, and the handles raised to flex the head when the child is reflected over the mother's abdomen. Where the occiput is posterior it is applied under the back of the child and draws the occiput into the hollow of the sacrum. The making of a gutter of the hand up to the face, to admit air, or passing a large-sized catheter into the mouth, will frequently allow the child to live when delay in extraction occurs.

PERMANGANATE OF POTASSIUM IN AMENORRHŒA.[1]

By C. E. BILLINGTON, M.D.,
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The claims of permanganate of potassium to a high rank among emmenagogues are so recent, the testimony on which these claims are based is so convincing, and the questions which naturally arise as to its mode of action are so interesting that the topic seems a suitable one for the consideration of this Section.

The physical and chemical properties of this salt, its beautiful purple color, and its unpleasant taste, its ready solubility in water, its richness in oxygen, and the liberality with which it yields up that oxygen as oxygen and as ozone, and its resulting value as a deodorant and antiseptic, and in many important chemical and local therapeutical uses, are too well known to require detailed repetition.

On the skin and healthy mucous membranes it is innocuous; on surfaces denuded of epithelium it acts as a caustic. In the stomach it causes irritation and pain in doses of more than two or three grains, and not infrequently in those doses. The United States Dispensatory of 1883 says: "Internally, the medicine has been used in diphtheria, scarlatina, and various zymoses and in dyscrasia. It has even been claimed that in doses of half a grain to a grain it has cured pyæmia. It is plain that any moderate amounts of the permanganate must be decomposed by the organic matters of the mouth, œsophagus, and stomach before absorption, and there is no reason for believing that it is of any value as an internal medicine."

In the London *Lancet* of January 6, 1883, Drs. Ringer and Murrell announced that they had found permanganate of potassium to be a very valuable remedy in certain forms of amenorrhœa, this announcement being based on the results of their treatment of sixty-nine cases with this medicine alone, without accessory treatment.

The kinds of cases included in their enumeration are as follows: Their most striking results had been obtained in the case of young women between the ages of eighteen and twenty-five, who from some accidental or trivial cause, such as catching cold or getting wet, had missed once or twice after having been regular. "In these cases the administration of the drug for a few days before the expected period will bring on the flow almost to a certainty." In some instances the periods were brought on after the patient had ceased menstruating for over a year. In the case of country girls who had seen nothing for a month or two after coming to town, the treatment succeeded admirably. The permanganate often succeeded well after the failure of other emmenagogues.

In those cases in which the patient had menstruated only once or twice, and had then entirely ceased for some months, the menstrual discharge was re-established, and thenceforth proceeded normally. In girls of fifteen or sixteen, who had never menstruated at all, the result of the treatment was less certain; but even in these cases it not infrequently brought on the flow at once. In other instances in which the general health was bad, it failed at first, but succeeded after the patient had been sent into the country for a time, and in some others it failed altogether.

In cases of scanty menstruation, lasting only a single day or a few hours, the administration of the permanganate prolonged the flow.

In the case also of women between thirty-five and forty years of age who, as the result of many pregnancies and much suckling, had ceased to be regular, it succeeded almost equally well.

In the amenorrhœa of advanced phthisis it failed, but in some cases of arrested phthisis it proved successful in re-establishing regular menstruation.

In cases of chlorosis it not infrequently brought on the menstrual flow.

Drs. Ringer and Murrell administered the remedy either in the pharmacopœial solution or in pills, in doses of one or two grains three or four times a day, generally beginning with the smaller numbers, and gradually increasing to the larger, the latter doses sometimes succeeding when the former had failed.

They usually gave the permanganate only for the three or four days immediately preceding the expected period, but when it failed to produce the desired effect, the patient was directed to continue steadily taking it. Sometimes one or two doses succeeded, and in some cases it was taken continuously for nearly three months.

Their patients generally preferred the pills to the solution; the latter in some cases produced nausea and even vomiting.

One curious symptom frequently followed the taking of the permanganate in either form, viz., a persistent pain over the upper part of the sternum, "as if something had stuck fast there and would not go down."

Since the publication of this article occasional reports from other physicians have appeared in this country and in Europe of the results of their employment of this remedy, and while there have been in these reports some minor differences, there has been in all which I have seen a striking concurrence of testimony to the main fact of the therapeutical efficacy of the drug in the same kinds of cases as those just mentioned, or in similar ones.

Dr. Franklin H. Martin, of Chicago, in The Medical Record of September 29, 1883, besides strongly corroborating the above statements from the results of a considerable experience with the remedy, added that he had also found it efficacious in a case of amenorrhœa with phthisis of four months' duration, in a case of irregular menstruation accompanying prolonged digestive trouble, and in certain forms of menorrhagia and metrorrhagia, dependent on atony.

[1] Read before the Section on Materia Medica and Therapeutics of the New York Academy of Medicine, February 17, 1886.

Dr. Bartholow, in *The Medical News* of November 22, 1884, mentioned that Dr. S. M. Lvaff, a Russian physician, reports having obtained seven successful results with the permanganate in ten cases of amenorrhœa; and that another, Dr. A. V. Vargunin, has relieved by its use dysmenorrhœa with scanty menstruation and anæmia.

Dr. T. G. Thomas, in his address before the New York State Medical Association, November 19, 1884, said: "It is, I think, the best emmenagogue yet discovered."

Dr. E. J. Doering, of Chicago, published in *The Chicago Medical Journal and Examiner* of April 18, 1885, a list of fourteen carefully tabulated cases of amenorrhœa, showing eight successes and six failures. But in five of the six cases in which it failed it appears that the permanganate was given in doses of only one grain three or four times a day, while in the successful cases the doses were two, three, and four grains three or four times a day. Dr. Doering found that the larger doses produced, in every instance, epigastric and substernal pain.

Dr. P. M. Deas, of Exeter, England, reported in *The British Medical Journal* of April 18, 1885, his having employed the remedy with success in several cases of amenorrhœa associated with mental derangement, in which both conditions had been the result of mental shock or fright.

Including with the kinds of cases which are mentioned in the foregoing statements those which may properly be classed with them, it would appear that permanganate of potassium is quite generally applicable as a remedy to purely functional amenorrhœa, occurring in any stage of menstrual life, in diverse systemic conditions, and due to a great variety of causes, and also to some forms of dysmenorrhœa, menorrhagia, and metrorrhagia.

I have employed the remedy under consideration in four cases only—a number which, standing alone, would be insignificant, but taken in connection with the statements of Drs. Ringer and Murrell, have impressed me as illustrating in several respects their accuracy, and therefore as being worthy of brief relation. Those cases all occurred in my private practice.

Case I.—A young girl, of German parentage, eighteen years of age, was brought to me by her mother, in June, 1884, suffering from chlorosis greatly aggravated, if not originally caused, by malarial poisoning of a very obstinate type. Having previously been regular, she had failed to menstruate at the two periods next before I saw her, Among her other morbid symptoms was great gastric irritability. Various anti-malarial and tonic remedies were employed with but little benefit to her condition. She missed a third monthly period; and one week before a fourth one was due I prescribed the permanganate of potassium in solution, in two-grain doses three times a day. It caused her great gastric distress and nausea, and at times vomiting; but she persevered heroically in taking it, and, when the period arrived, menstruated normally. This was followed, however, by no improvement in her general health. She was sent to the seashore for six weeks, during which time she passed another period. She returned in somewhat improved health, and the permanganate was again prescribed. This time her stomach utterly refused to retain it, and its further employment was abandoned. Slow improvement and ultimate recovery of her health followed, but it was several months before her catamenia reappeared.

It will be observed in this case that the only menstruation which took place in eight or nine months was on the sole occasion when the patient had taken the permanganate; that this was not accompanied with improvement in the condition of toxæmia and chlorosis, and that the remedy was extremely irritating to the stomach.

Case II.—In November, 1884, I was called to see a school-girl of good family, aged about seventeen, who had previously been a type of perfect health and had menstruated regularly. I learned that while spending the previous August in the Catskills, she had received a wetting by being caught out in a shower. Since that occurrence her menstruation had taken place only in the form of a scanty, almost colorless, discharge. Her health had also been declining. She had suffered from frequent and persistent headaches, with coldness of the extremities, loss of appetite, shortness of breath, palpitations, etc. The bloom of her cheeks and lips was replaced by pallor, and the vivacity of her expression by languor and depression. Besides other remedies, indicated by her symptoms, I prescribed permanganate in two-grain capsules, to be taken three times a day, beginning one week before the time of her next menstrual period. She found it impossible to take the medicine on account of the gastric distress and nausea which it caused, and the menstruation which followed was of the same imperfect character as before. The following month, the condition of the stomach having in the meantime been improved by appropriate remedies, the patient was able to take the capsules without much difficulty, which was followed by a normal menstruation and a rapid return to perfect health.

Case III., which came under my care in October, 1884, was that of a young lady, aged about eighteen, surrounded by every circumstance promotive of happiness and health, but who from no discoverable cause had been for two months lapsing from her previous good health and menstrual regularity into a pitiable condition of anæmia and vital depression with amenorrhœa. The only explanation which I could arrive at was a possible hereditary tendency, as her mother, when she brought her to me, told me that she herself had been much troubled in the same way when at her age. The patient suffered from the worst symptoms of chlorosis—almost entire loss of appetite and digestive power, extreme feebleness, so that she had palpitation and shortness of breath on walking a short distance, occasional fainting, etc. For three months I prescribed for her a variety of ferruginous tonics, with quinine, nux vomica, arsenic, and aloes and myrrh, and enjoined outdoor exercise, amusements, nutritious food, and alcoholic stimulants. By January her appearance and her strength had somewhat improved, but still there was no menstruation. I then prescribed permanganate in two-grain capsules, one three times a day. They produced no effect in January, but a repetition of the treatment in February was followed by a normal menstruation—the first in seven months.

Since that time she has taken the permanganate for one week before the date of every menstrual period, except during a three months' absence in the country last summer, when she did not take it, and did not menstruate at all, though her health was in other respects greatly improved. With this exception she has continued to menstruate about every alternate month, her health in other respects having been for some time fairly good.

In this case, while other remedies have failed to restore the menstrual function, the permanganate seems to have succeeded, but not invariably. I suspect that the reason of its not having succeeded completely is that the dose has been less than has been found necessary, in some cases, in order to produce the desired effect. I have directed this patient to take two grains, four times a day, before her next period—with what result remains to be seen.

Case IV. presented itself on Friday, January 29th, in the person of a young girl of rather anæmic appearance, aged sixteen. Her mother brought her to me because she suffered from palpitation and shortness of breath on making any exertion. She told me that her daughter had begun to menstruate one year before, since which time she had menstruated only four or five times. She had missed her period in December, and another one due on January 23d, or five days before I saw her. I prescribed twenty two-grain capsules of permanganate, to be taken, one three times a day, and requested her, when

she should have taken them, to report to me. On the following Monday morning she returned to ask me if she should continue to take the capsules, as they had produced the effect. She said that she had obtained them only on Saturday morning, and had taken three on that day, and that the flow had come on that night.

This patient also mentioned that she felt "as if something were sticking there"—pointing to the upper part of her sternum. The same curious symptom had also occurred on one occasion in the preceding case.

Mode of action.—Of the mode of action of this remedy Drs. Ringer and Murrell say "that the effects described are due to the manganese, and not to the potash in the salt, is shown by the fact that manganate of soda and binoxide of manganese are equally efficacious in the treatment of amenorrhœa. The manganate of soda was given in two-grain pills, two four times a day, and the binoxide in four-grain pills, one four times a day. It may be thought that the manganese acts by improving the condition of the blood, but this is not the case. The treatment succeeds equally well in the plethoric and in the anæmic. Given in cases of chlorosis, the permanganate not infrequently brings on the period without in any way improving the anæmia."

Dr. Bartholow, in the interesting and suggestive article on the action and uses of permanganate of potassium previously referred to, maintains that the chief, if not the only therapeutic effects of the salt are due to its oxygen, including in the term oxygen its nascent and peculiarly active form, ozone, this element being, in the light of modern researches, "a vital stimulant and an agent promoting the combustion process in all parts of the body." To the prime objection to this theory, viz., that the permanganate cannot act as such beyond the stomach on account of its speedy decomposition therein, Dr. Bartholow replies that there are reasons, which he has elsewhere given, for supposing that the diffusibility of this salt is so rapid that it has some action on the blood. As an example of such reasons, he cites the local use of the permanganate in the bites of venomous serpents, in which the poison is destroyed, notwithstanding the organic matter in which it is inclosed.

In considering this theory it would seem pertinent to inquire, Has oxygen or has ozone, in any of the other forms or modes in which it has been administered, been found to have any such prompt and special action upon the menstrual function as that which the permanganate of potassium has been shown in some cases to exert? If any evidence to that effect exists I have not met with it.

In the absence of such evidence this theory would require that the permanganate of potassium should bring on the catamenia by improving the condition of the blood and acting as a general invigorant; but we have seen that this is not the fact, since in some cases it effects the one object without at all accomplishing the other, and when it does both, the former result is often remarkably speedy, while the latter must be comparatively slow and gradual, so that either must be regarded as independent of, and distinct from, the other.

In regard to the question, whether the permanganate or manganese in other forms does act as a general tonic and blood-restorer in anæmia and chlorosis, the testimony is, as on so many others in therapeutics, conflicting. Ringer, for instance, in the latest edition of his "Therapeutics," denies that it has that action. Other competent observers, among whom, as will presently appear, is an eminently trustworthy one, answer the question in the affirmative.

. It appears to be an obstinate chemical fact that permanganate of potassium, on account of the rapidity with which it is decomposed by organic matters, cannot possibly act as such beyond the stomach. This is positively stated in the latest edition of Ringer's Therapeutics. In the paper of Dr. Doering, to which reference has been made, is included an opinion of Professor N. Gray Bartlett, a well-known chemist of Chicago, to the same effect. Professor Bartlett adds that in all probability the manganese of the permanganate separates in the stomach in the form of the hydrated manganese dioxide. If this be true, it follows that for all therapeutical purposes outside of the stomach itself the internal administration of the permanganate of potassium is simply one mode of the administration of binoxide of manganese.

The question next presents itself, Is the binoxide of manganese an equally efficient emmenagogue with the permanganate of potassium? On this point published testimony is not as yet abundant. In the article of Drs. Ringer and Murrell, from which we have quoted, the answer was, as we have seen an affirmative one. Dr. Franklin H. Martin in a recent communication [1] refers to the binoxide as having proved, on account of its insolubility, almost inert. Dr. T. G. Thomas, on the other hand, informed me, a few days since, in answer to my inquiry on the subject, that the binoxide, in the form in which he employs it, has seemed to be equally efficient with the permanganate, and much better tolerated by the stomach.

Dr. Franklin H. Martin, of Chicago, in his very valua ble contribution to the literature of this subject, first referred to, states that his observations have led him to regard manganese in any form as a direct stimulant to the uterus and its appendages; that though it acts as a general tonic it has a special predilection for those organs. He suggests that it may exert that influence by acting as a direct vaso-motor nerve stimulant to the vascular system of the parts, or by stimulation of the sexual nerve ganglia, or even possibly of the sexual nerve-centres. He calls attention to the fact that as long ago as in 1868 Dr. Broadbent, after experiments performed by him, and recorded in the "Proceedings of the Clinical Society of London" for that year, says: "Manganese seemed to have a special influence in promoting the return of the catamenia, and nickel a special property of checking leucorrhoea."

Mode of administration.—The administration of the permanganate in solution is, as we have seen, ineligible, on account of its liability to cause gastric irritation, and in compressed tablets has been found nearly as much so; although that tendency is shared in a minor degree by all other modes of employing it.

In making it into pills with ordinary excipients there has been found to be liability to decomposition and combustion. Ringer therefore suggests, as a suitable basis for the composition of pills, kaolin and cerate of petroleum in equal parts.

Mr. Angelo has lately shown me specimens of tablets which he prepares with cocoa-butter. They are pleasant to take, will dissolve readily in the stomach, and may, perhaps, be found preferable to the form last mentioned. There is, however, probably no better mode of administering the remedy than in gelatine capsules.

The permanganate is commonly best tolerated by the stomach when taken soon after meals.

Binoxide of manganese may be given, in pills or capsules, in doses of from two to four grains three or four times a day.

The administration of manganese, in either form, in amenorrhœa should usually be begun about one week before the time of the expected menstruation. Should it then fail of effect its use may be continued through the interval to the next one, or it may be suspended and resumed at the corresponding period of the following month.

For those patients, at least, who are unable to swallow pills or capsules, the following suggestion of Dr. Franklin H. Martin [1] may be found valuable. Of a twenty per cent. solution of the oleate of manganese let one drachm be applied to the abdomen or the inner surface of the thighs of the patient, and its absorption promoted by vigorous rubbing with the hand until it

[1] Medical Record, June 27, 1885.

has disappeared. In cases of amenorrhœa this is to be done every night for a week preceding the time of the expected menstruation. In cases of menorrhagia or metrorrhagia it may be applied in the same way, but in smaller quantities, until the desired effect is produced.

The principal questions for consideration in connection with this topic are the following:

I.—Is permanganate of potassium an efficient emmenagogue in certain forms of amenorrhœa?

II.—To what forms is it applicable?

III.—Is it also remedial to certain forms of dysmenorrhœa, menorrhagia, and metrorrhagia?

IV.—To which of its component elements is this action due?

V.—What is the nature of this action? Is it specially exerted upon the organs of menstruation, or is its effect upon them only incidental to its general action? Is it mainly through the blood or the nervous system? If the latter, in what way?

VI.—Does the permanganate of potassium, or manganese in any form, improve the blood condition in anæmia and chlorosis?

VII.—Is the binoxide of manganese an efficient therapeutic agent?

VIII.—What are the best modes of administering the salts of manganese?

I am confident that the imperfections of the preceding paper will be condoned in consideration of my having been kindly permitted to present to the Section, in connection with it, the following very interesting statements on this topic from the large experience of Drs. Fordyce Barker and T. G. Thomas:

"DEAR DR. BILLINGTON: I regret extremely that a previous engagement, from which I cannot get free, will prevent me from accepting the courteous invitation of Dr. J. C. Peters, the chairman of the Section of Materia Medica and Therapeutics of the Academy of Medicine, and of the pleasure of listening to your paper on the 'Treatment of Amenorrhœa.'

"I am happy, however, to comply with your polite request to give you 'a *résumé* of my experience' in the use of the permanganate of potash in this affection.

"For many years, as you perhaps may know, in my lectures to medical students I was accustomed to express my incredulity as to whether any article, known in materia medica, could be regarded as possessing the property of a direct emmenagogue. Of course, in common with all other physicians who have been some years in practice, I have had my full share of experience in the use for this purpose of iron, aloes, myrrh, savine, rue, and other agents of this character, and I have often seen menstruation return, apparently as a consequence, but I never was convinced that this result was due to a direct influence on the uterus or its functions. For some fifteen years or more, I found more success in the use of capsules of apiol, two or three times a day, commencing three days before the menstrual period. But this often failed, and I was never able to determine the precise conditions where it would be successful or where it would fail.

"I therefore only prescribed it empirically, hoping for success.

"I think that it was about five years ago that I was told by a physician in London that Dr. Sidney Ringer had found the permanganate of potash a very efficient emmenagogue. I was prepared to receive the statement favorably, from the well-known property of the different preparations of potash of rapid diffusion through the blood, and from my experience in the great value of the chlorate of potash in the treatment of chlorosis associated with amenorrhœa, as in my clinical lectures I taught for many years.

"The past four years I have used the permanganate of potash exclusively when an emmenagogue is indicated, except in a limited class of cases of sudden suppression, to which I will subsequently refer.

"As you will doubtless discuss fully the action of the permanganate of potash in its scientific aspect, I will restrict what I have to say to my clinical experience; and this can be more clearly illustrated by referring to groups of cases.

"I first prescribed the permanganate in September, 1881, to a lady, thirty-six years of age, who had resided in Europe for the previous nine years. Some two years before an obscure form of disease of the nervous system followed a severe moral shock, and she was under the treatment of Dr. Brown-Séquard for several months. She finally became insane, and was in a *maison de santé* in Paris for ten months.

"She left this institution in March before I saw her, rational, but morbid, irritable, and so suspicious as to make the life of her family a burden, particularly several days each month. Her general health was pretty good, but she had not menstruated for twenty months.

"While I gave general directions as to her health, in the use of laxatives, diet, and open-air exercise, etc., I prescribed for the amenorrhœa two grains of the permanganate of potash three times a day. In four days menstruation came on and lasted three days. This was followed by such an improvement in her condition, physical and moral, that I ceased my attendance. Seven weeks after I was again called, and found her very nearly in the same state as at my first visit. She did not menstruate the previous month. The permanganate was again repeated, with the same happy result. This treatment was resumed the three subsequent months. Since then this lady has been physically well and morally happy, making her family also happy.

"This success led to a further trial of this agent, and since that time I have used it in comparatively a large number of cases. I say 'comparatively,' because I think no man can say that he has treated really a large number of cases of amenorrhœa.

"In order more clearly to illustrate my views, I will divide the cases which I have treated with this remedy into three groups, mentioning them in the order of their frequency.

"First. Young ladies between the ages of fourteen and nineteen, who come from the country 'to finish their education.' Home-sickness, entire change of life in its habits and associations, overtax of their brain-power from the ambition of themselves or their teachers to accomplish more in a given time than they ought to attempt, not unfrequently leads to an arrest of menstruation. I see ten or fifteen such cases every winter.

"Second. Ladies, both young and married, who suffer severely from sea-sickness, that have left some European port within a few days of the menstrual period. With such, amenorrhœa of longer or shorter duration is almost sure to follow. I am consulted by at least eight or ten such every year.

"Third. Ladies, between thirty and forty years of age, generally married, some of whom have borne children, who rapidly begin to gain flesh, grow stout, and at the same time menstruation decreases in both duration and quantity, until at last it is only a mere pretence. This is generally attended with annoying nerve disturbances, pelvic weight, sometimes hemorrhoids, and often with moral depression from the apprehension of growing old prematurely.

"Now it requires some moral courage on my part for me to boldly avow that, never, where in either of the above classes of cases I have prescribed the permanganate of potash, have I *known* it to fail.

"But this assertion requires explanation. The cases of this kind for which I have prescribed have, with but two exceptions, not occurred in my family practice or that of Dr. A. A. Smith, but have come to me for the special treatment of amenorrhœa, many of them from out of the city, and from other parts of the country.

"In all prescriptions for the permanganate I write to the druggist, 'Return the prescription,' and direct the patient to continue the medicine, if necessary, for at least three months, and especially urge her to report to me, either personally or by letter, if the end be not accomplished. Many such have reported that all was right; many others from out of town I have not heard from; and perhaps I am wrong in believing that the treatment was successful. I must add, that with this specific treatment I endeavored not to neglect any other measures necessary to keep up a healthy and regular action of other functions.

"I will add, in regard to the third class in my group, that every patient was a resident of this city. I presume that every medical man who has been long in practice has met with some such. In all these I have known, from personal interviews, the result; that there has been a satisfactory return of menstruation, although in two cases it was necessary to continue the remedy for five months. In all there has been entire relief of the cerebral, pelvic, and, in some, thoracic nerve disturbances, cardiac and pulmonary. One was quite cured of a periodic asthma from which she had suffered monthly for three years.

"Of course I never prescribe this agent in cases where the amenorrhœa is due to some grave constitutional disease; nor do I rely on it for the relief of sudden suppression, due to cold, moral shock, or an acute disease. In this class I think that pulsatilla, opiates, and local agents, such as fomentations and large hot rectal enemas, are generally successful.

"In my early experience I found great difficulty in getting the permanganate put up by druggists in such a way that patients could take it without great repugnance, and it often produced severe gastric pain, from its rapid decomposition. Mr. Angelo for a time put it up for me in a peculiar capsule, which did better than anything else, so far as the taste is concerned, and the pain was prevented by swallowing immediately a half tumbler of water, not cold. Latterly I have found two-grain tablets do quite as well, if the same quantity of water is swallowed at once. Fraser & Co. have recently prepared it in grain pills, but I have not yet had the opportunity of trying them.

"That all may judge how much weight should be attached to my clinical experience, I will add that I find on the stubs of my office prescription-book I have prescribed the permanganate of potash forty-four times since November 17, 1884, which exactly represents the number of cases of amenorrhœa of the groups mentioned before, as in this time I cannot recall an instance where I have made a domicile visit for this disease.

"I think you may well congratulate the Section that I am not able to be present at the meeting, as they will be saved the bore of a speech—one talks so much more diffusely than he writes. Very sincerely yours,

"FORDYCE BARKER.

"24 EAST THIRTY-EIGHTH STREET, February 14, 1886."

"MY DEAR DR. BILLINGTON: You ask for my experience with manganese and its salts as an emmenagogue. I have used them freely ever since they were first recommended by Ringer.

"Thus far no perfect emmenagogue has been discovered, but I regard manganese as the best that I have met with. It should be styled a regulator of menstruation rather than a pure emmenagogue, for it is useful in absence of the menses, irregularity of their recurrence, and even in excess of flow.

"The preparation which I now employ is McKesson & Robbins' pills of the binoxide of manganese. Of this preparation I give two grains three times a day throughout the month and during the period.

"I also employ manganese in chlorosis and anæmia, and I think that by its use I obtain better results than I have heretofore done by iron.

"Knowing how apt the medical mind is to give way to enthusiasm with reference to new remedies I have spoken guardedly of this one. But I do not wish to 'damn it by faint praise.' While I recognize that it is like all other medicines, very uncertain in such cases as I have mentioned, I look upon it as a very valuable addition to the Pharmacopœia.

"Sincerely yours,

"T. GAILLARD THOMAS.

"294 FIFTH AVENUE, February 9, 1886."

A BIOGRAPHICAL SKETCH OF THE LATE ALFRED C. POST, M.D., LL.D.[1]

BY JOHN C. PETERS, M.D.,

NEW YORK.

HORACE tells us it is well sometimes to plunge boldly into the middle of the things we have to tell. In accordance with this advice I will commence with the middle period of Dr. Post's life, which also marks the commencement of his membership in this Society. He joined it in 1851 when he was forty-six years of age. He became our president in 1861, when he was fifty-six years old, and in his very prime, although that would seem almost great age for the majority of men.

He had been preceded in the presidency by Drs. John A. Swett, Willard Parker, James R. Wood, Thomas M. Markoe, William H. Van Buren, C. E. Isaacs, John T. Metcalfe, Robert Watts, E. R. Peaslee, John C. Dalton, and Ernst Kracowizer. Of these only Drs. Markoe, Metcalfe, and Dalton are left with us. Two are in excellent health, and long may they remain so. The other is an invalid.

Dr. Post was elected by the votes of Drs. Isaacs, Batchelder, Gilman Bolton, Willard Parker, McNeven, Bowen, and Robert Watts (7), who have passed away from us, and by those of Sayre, McCready, Van Arsdale (?), Purple, George F. Shrady, and Alonzo Clark (6), who are still with us.

In those times, twenty-five years ago, the attendance at the Society occasionally fell as low as six or seven. Often only ten or fifteen members were present, but frequently we had twenty or thirty, and occasionally from thirty to forty-eight, which I believe was the highest number.

The modest annual dues were still $1, but the first microscope, costing $150, was purchased in 1851. It was a good one, furnished with lenses by Nachet, of Paris, and Powell & Leland, of London. Dr. Post was already working with the microscope and specimens were often submitted to him for examination. But Drs. Dalton, H. B. Sands, Gouley, Draper, and others, were the principal microscopists, although everybody was discovering fibro-plastic tumors and caudate cells.

During the ten years that Dr. Post was a member of this Society before he became president, his contributions were already characteristic of what was to come in later years. He exhibited the results both of the boldest and most delicate operations, such as extirpated thyroid, parotid, and cervical glands, rectums, and ovarian tumors, exsections; he made artificial anuses, opened abscesses of the liver, performed tracheotomy for croup, removed parts of the omentum in strangulated hernia, large and small urinary calculi, and then came down to little slivers of bone, remarkable only for their small size and the great amount of long-continued irritation they had caused; also calculi, so small that they could scarcely be handled, yet had caused much suffering for five or more years; and little supernumerary fingers and toes, small encysted tumors of the scalp, and tiny subcutaneous neuromatous tumors. No operation was too great or too small for him.

During Dr. Post's presidency in 1861, one hundred

[1] Read before the New York Pathological Society, February 24, 1886.

and thirty-five specimens were presented before this Society. The principal exhibitors were Gurdon Buck, A. C. Post, Foster Swift, Voss, George T. Elliott, Sewell, Lente, J. R. Wood, Willard Parker, D. S. Conant, and William H. Van Buren, who have been taken away from us; and Alonzo Clark, A. L. Loomis, J. C. Dalton, George A. Peters, Dr. Finnell, Dr. Baner, J. T. Metcalfe, H. B. Sands, Robert Weir, William H. Draper, J. Lewis Smith, George F. Shrady, A. Jacobi, D. B. St. John Roosa, Cornelius R. Agnew, Lewis A. Sayre, Drs. Briddon, and Austin Flint, whom we still have with us.

Dr. Post's communications in 1861 did not differ much from those already recorded. Dr. Alonzo Clark was *still* holding that great lead in the Society which he had maintained so long, and was still developing his views about large hearts, perforations of the vermiform appendix, thrombosis of the arteries, diseases of the suprarenal capsules, and Bright's disease. Drs. Loomis and Draper were exhibiting specimens of abdominal tumors, fatty degeneration of the heart, abdominal and thoracic aneurisms, pericarditis, and tumors of the cerebellum.

Dr. Sands was performing some of his brightest operations, and discovering fibro-nucleated tumors. Drs. Roosa, Agnew, and Shrady were hospital surgeons, reporting intracapsular fractures of the femur, ruptures of the spleen, ulcerations of the bowels, and scirrhous mammæ.

Dr. Jacobi and J. Lewis Smith were discussing diseases of infants, and cases of intussusception and tracheotomy.

George T. Elliott was reporting ovarian tumors, cancers of the uterus, fatty placentas, and infant monsters caused by their mothers being frightened by elephants.

Drs. Kracowizer and Voss were teaching us about dermoid cysts of the uterus, neck, and other parts; obstructions of the coronary artery, osteo-myelitis, osteo-sarcomas, etc.

This will serve to give a faint outline of the general labors of the Society in 1861, which, with the exception perhaps of the microscopical work, was almost as good as ever has been done in it. Still, I may add that Drs. J. R. Wood, Sayre, and George A. Peters were re-and excising bones and joints, tying for popliteal and other aneurisms, reporting diseases of the periosteum, varied with records of ruptures of the appendix vermiformis, cancers of the stomach, and trephinings of the skull.

Dr. Post's presidency was marked by two sad events. The first was the death of our well-beloved President, Dr. Charles E. Isaacs. The Society adjourned in respect for his memory, which was very unusual then, and has been since, and drew up resolutions expressive of its sincere regret. Guided by hard scientific instincts, this Society scarcely ever takes any notice of the deaths of its officers or members, however distinguished they may be, unless their bodies also furnish interesting pathological specimens.

The character and services of Drs. Isaacs and Post were so similar, and the proceedings of this Society were so sincere and dignified at the death of Dr. Isaacs, that they may well be repeated here. Like Dr. Post, Dr. Isaacs was a distinguished anatomist, surgeon, and pathologist. He lived in Brooklyn, and a joint special meeting was held by the Pathological Society and Academy of Medicine in the Mayor's office there, to take proper action about his decease and to attend his funeral.

"Dr. William H. Van Buren offered the following preamble and resolutions:

"WHEREAS, It has pleased Almighty God to remove from among us our beloved and respected colleague and late President, Dr. Charles E. Isaacs, whose extensive learning, high professional attainments, and singular purity of character have won for him the warm personal regard of all who knew him; it is therefore, in respectful tribute to his memory,

"*Resolved*, That in the decease of Dr. Isaacs these Societies have lost one of their ablest and most industrious members, whose anatomical and pathological researches have enriched our transactions with some of their most valuable papers, and placed their author in the foremost rank of the cultivators of medical science.

"*Resolved*, That in the performance of the practical duties of his profession, in which he was no less honored and successful than in the cultivation of science, we recognize the conscientious fulfilment of obligations and the considerate skill which have so justly gained for him his high position in this city and the devoted attachment of his many friends, to whom and to his immediate family we respectfully and sincerely tender our great sympathy for their severe loss.

"*Resolved*, That whilst we admire the learning, and respect the ability of our departed colleague, we recognize also that he possessed in an eminent degree the qualities of the amiable and honorable Christian gentleman: as gentle in manner and pure in thought as a woman and yet possessing all the courage and energy of a man: considerate to the feelings of all; speaking slightingly of none; singularly diffident of his own high powers, and yet employing them earnestly for the benefit of others, rather than for himself.

"It may be said of him with literal truth

> "None knew him but to love him,
> None named him but to praise.

"(Signed) GEORGE F. SHRADY, *Secretary*."

A more just and elegant tribute was never paid to any member of this Society, and it applies as well to Dr. Post as to Dr. Isaacs. I am glad to revive the memory of Dr. Van Buren also.

The second sad event was the death of Dr. Post's oldest son, in sorrow for which the Society adjourned. Afterward Dr. Post filled the chair at every meeting during his presidency, thus setting an example of fortitude and respect for duty which is characteristic of conscientious and scientific men.

During Dr. Post's presidency in 1861, the so-called great unpleasantness, or the late huge civil war broke out. From that time till 1865 Dr. Post went down from time to time, with many other New York surgeons, to take care of the wounded of both armies. His religious side had long been dominant, and we can imagine him silently praying with his favorite Horace:

> Our new-raised troops be thy peculiar care
> Who to the dreadful South our banners bear.

He was at that time especially impressed with the benefits of bromine in hospital gangrene, originally suggested by one of our founders, Dr. Middleton Goldsmith.

At this middle period of his life Dr. Post had been surgeon to the New York Hospital since 1836, or from the time he was thirty-one years old. He was one of the founders, in 1843 I believe, of the medical department of the University of the City of New York; an active member of the New York Medical Missionary Association; one of the directors of the Union Theological Seminary, and an elder in the Church of the Covenant. Hence it was with no irreverent spirit that he said the two things he enjoyed most in this life were a surgical operation and a prayer-meeting.

His religion was never obtruded on his colleagues, but he often made pleasant little hymns for young children, and conducted the simple religious services in the Nursery and Child's Hospital. Although often a little grim, he could enjoy paraphrases of Watts' Hymns, such as:

> He forms our surgeons for the field
> With all their dreadful skill;
> He gives them awful knives to wield,
> And makes their hearts of steel.

It may be said with almost literal truth that Dr. Post never passed his middle and prime age until he was nearly eighty years old. It was only a few months before

his decease that his friends detected signs of failing health and strength. Up to that great age, like the patriarch of old, his eyes were so little dimmed, and his natural force so little abated, that we rarely realized he was an old, old man. During the last ten years of his life he was performing some of the most skilled and delicate feats of plastic surgery, and only four months before his death he performed an ovariotomy in forty-five minutes as successfully and skilfully as only much younger men can do, and at a later period extirpated the rectum, an operation requiring an hour and a half, and then showed no signs of fatigue. If he had not been taken away by sudden and sharp sickness he would have lived many years more, and might have gone on operating until he was near ninety, and certainly would have been praying till the last moments of his life. *Laborare est orare.*

Horace also says, after having exhausted the middle and end of a history or biography it may be well to commence at the beginning.

Dr. Post commenced his classical education in Columbia College when he was only fourteen years of age. His memory was something remarkable and apparently never at fault. He was always as ready to give the derivation of a word as he was to perform a major or minor operation, and he never forgot, but always increased his store of the Greek, Latin, French, and German languages. He could have said

> The Greek and Roman languages are mine,
> With all their curious words and strains sublime.

He commenced his medical studies with his uncle, the celebrated Dr. Wright Post, in 1822, and graduated from the College of Physicians and Surgeons in 1827, after five years' study. He then went to Europe for two years, visiting London, Edinburgh, Paris, Berlin, and Vienna, to complete his medical and surgical studies.

He was the second American medical student who went to Vienna and studied pathological anatomy under Rokitansky. Dr. Gurdon Buck was the first, and John C. Peters the third. I brought back portraits of Rokitansky and letters of remembrance from him to Drs. Buck and Post in 1843.

The history of Dr. Wright Post is nearly like that of Dr. Alfred C. Post. Dr. Wright Post was one of the most accurate anatomists and accomplished surgical men that New York has ever produced. A beautiful portrait of him has long hung, and still hangs, in the lower hall of this College. He was born in 1766, so that the professional services of the Post family have stretched well over a century of time, and are still upheld worthily by Dr. George E. Post, son of Alfred, now long a medical missionary in Syria.

Dr. Wright Post had been a student with Dr. Richard Bailey, at that time one of the most celebrated and skilful surgeons in New York, whose memory is never omitted in the medical histories of this city.

Dr. Wright Post graduated and went to London in 1784, remaining two years and a half, coming back an excellent anatomist and an equally good surgeon. Dr. Valentine Mott says his skill with the scalpel and bistoury was masterly. He commenced at once to lecture on anatomy in the New York Hospital, and in 1792 became Professor of Surgery in Columbia College. He then went again to England and returned with a large and rare collection of anatomical specimens, which remained the best in this country till 1823, and parts of which are still in this college.

He also came back with a thorough knowledge of operative surgery and soon attained the highest rank in this city. Even his early operations were marked, not only by great mechanical skill, but also by that freedom of thought and action which a minute acquaintance with anatomy and of the principles of surgery alone can give. He tied the femoral artery in 1796, and soon performed two successful operations for carotid aneurism. He was the second to tie the external iliac for inguinal aneurism; and he was absolutely the first in this country to tie the subclavian on the scapular side of the scaleni muscles for an aneurism high up in the axilla. He was also the first to give large doses of opium in peritonitis and other inflammations of serous membranes.

Dr. Wright Post lectured till 1813, or more than twenty years, with Dr. Bailey on surgery, Samuel L. Mitchell on chemistry, Hammersley on theory and practice, and Hosack on materia medica. All these are still household medical names in New York.

In 1813 the medical faculty of Columbia College was united with the College of Physicians and Surgeons, and Dr. Wright Post became associated with Drs. John Augustine Smith, MacNeven, John Bard, De Witt, Stringham, and Osborne, all of whom also figured largely in the annals of the County Medical Society.

Dr. Wright Post lectured and operated for over forty years, and Dr. Valentine Mott says he had no superior in all that time. He was distinguished for the clearness and accuracy of his teachings; he was always painstaking, and finally became peculiarly terse and apt in his instructions. His elocution, though plain and simple, was ready and natural; he never sacrificed accuracy to the graces and elegancies of diction.

Few professional men ever enjoyed a larger share of the public confidence and esteem. He was also remarkable for his great punctuality, and his deportment was uniformly considerate and more than usually correct; he was without major or minor vices; he was scrupulously pure and delicate; he was the friend and counsellor of young doctors; he was religious and strict in his attendance upon the Episcopal Church; he became a vestryman and finally senior warden of Trinity Church; he was a trustee of Columbia College and of the Historical and Philosophical Societies. He was for thirty-five years a surgeon and consulting surgeon of the New York Hospital, and for several years president and an active officer of the Medical Society of the County of New York; finally, he became President of the College of Physicians and Surgeons.

He had been the personal friend and correspondent of Percival Pott, Sir Astley Cooper, Charles Bell, and Drs. Fordyce, Home, Abernethy, Cline, and Blizzard.

He was greatly adverse to writing; and with the exception of a few papers descriptive of his most interesting surgical cases, he left no literary work behind him.

To sum up: As an anatomist he was accurate; as a surgeon, dexterous and bold; as a man, exemplary; as a leader and officer, masterly. He died in June, 1828, and his mantle and influence fell upon Alfred C. Post in 1829.

If I had not repeated the name of Dr. Wright Post again and again, even his best friends would have been easily misled into the belief that I was treating them to a biographical sketch of Dr. Alfred Charles Post.

I have only to substitute the Presbyterian for the Episcopal Church; to add the names of St. Luke's and the Presbyterian to that of the New York Hospital; the Medical Department of the University for that of Columbia College; and say that Alfred labored fifty-one years as a lecturer and operator and Wright only forty years, and the similitude, with the exception of a few minor personal differences, will be complete.

Then almost all that I have said in favor of Wright Post can be truly said of Alfred; and the biographical sketch of one may honestly be transferred to the other.

If we believed in the transmigration of souls we could say that Drs. Wright and Alfred Post were as one man, who had lived and worked well and gloriously for a full century. And we can add that this beautiful strain of honest, religious, and scientific men is continued in the son, Dr. George E. Post: he is a medical missionary in Syria; and at last the religious element of the Post family has overtopped, but not submerged, the surgical and medical.

Dr. Wright Post was more delicate and fragile as a

man, and is said to have been more elegant in his person, manners, and operations, than Dr. Alfred.

But Alfred was a well-favored man. We will all long recollect his not large, but very well-proportioned, sturdy, remarkably compact and squarely erect figure, with not an ounce of extra fat, or an inch of unusual height.

His head, face, and beard were strikingly like those which have come down to us in the portraits of Hippocrates. He was never absent-minded, but always seemed absorbed in reflection; still he was ever on the alert, hearing, seeing, and pondering everything, without any of that common and eager expression of strained attention which is so often noticed in less mature and less well-balanced men. His mouth was in repose decidedly firm, or almost hard, with a slight approach to grimness. But no one will forget the bright twinkle of his small gray eyes, or the genial smile which broke over him when he greeted his numerous friends, or took part in a discussion. In the latter his air was always that of one who was pleasantly, easily, and confidently assured of his mastery over the subject. If any one was tempted to challenge his memory or his knowledge he was generally brought to a standstill by timely quotations from published records, or by truthful reference to his own or others' experience. Then his smile quickly faded away and he again seemed in complete repose: thus he combined the stolidity and discretion of age with the enthusiasm and freshness of youth, and changed from one to the other at will. His command of language and of his temper was so great that it never seemed necessary for him to use angry or bitter words; but his replies at times were incisive, as keen as his knives, and as crushing as his lithoclasts.

No one ever heard him make an intentional misstatement, and few ever have known him to make a grossly incorrect statement; he was almost invariably accurate and always truthful. He never argued for the sake of argument, and yielded quickly as soon as convinced of any error, even if his opponent had been discourteous.

As a speaker and writer he was always clear, terse, logical, and impressive; as an operator he was always bold, but exceedingly careful, and as painstaking as he was self-reliant. He never sacrificed safety to speed. He often seemed dry and hard, but the choicest treasures of literature and poetry always seemed at his instant command, and his charity for all never failed him.

Next to his religion and surgery Dr. Post was an earnest temperance man, and a great example of the benefits of total abstinence from alcohol and tobacco. He had no

> Mellow casks of gentle wine
> Of equal age with mine.

But only

> A surgeon's beverage, pure and cheap,
> Should e'en Mæcenas be my guest.
> No rich vintage of the luscious grape,
> But only sober cups shall crown my feast

He was also extremely frugal and could honestly say,

> Nor ask I more than sense and health
> Still to enjoy my modest wealth;
> From age and all its weakness free,
> O Son of God, preserved by Thee.

We have seen that Dr. Post had many more than the usual advantages of medical men. He was the son of an eminent and prosperous merchant, Joel Post; his primary and classical education were more than good; his professional education was excellent, both here and broad.

He was led on by Wright Post and the New York Hospital; he had many friends and early patrons; he always had an abundant field for exertion; he had a vigorous constitution; he was never a "medical orphan," which in olden times was defined, "as one who had no uncle in the New York hospitals;" he had all the opportunities and abilities which go to make a great surgeon and an accomplished man, and used them unceasingly.

We can all agree that the example which he has set, of a man who lived a thoroughly earnest, unselfish, Christian, and most useful life, cannot fail to leave an excellent influence which will last long after this tireless worker himself has gone

His end was finally quick and peaceful, in the fulness of time; and no one can say, "If he had died earlier his reputation would have been greater." We can imagine his last message to us to be:

> My friends, the funeral sorrow spare,
> The plaintive song and bitter tear,
> Nor let the voice of grief profane
> With loud laments my happy home.

Progress of Medical Science.

NEPHROTOMY FOR TOTAL SUPPRESSION OF URINE.—Mr. Clement Lucas performed this operation in Guy's Hospital on October 29th (*The British Medical Journal*). A woman, from whom he had removed the right kidney for total destruction of its secreting structure by large calculi and hydronephrosis about four months ago, and who had made a rapid and complete recovery, was suddenly seized with great pain in the left kidney, followed by vomiting, headache, and suppression of urine. She passed urine last on Sunday morning, October 25th, between eight and nine o'clock; and from that time till the operation, on Thursday afternoon, no urine passed and vomiting was persistent. Her medical attendant, correctly interpreting the meaning of her symptoms, placed himself in communication with Mr. Lucas, and the patient was brought to London on Wednesday, October 28th. It was thought that the effect of diuretics in flushing the kidney might yet be tried while the patient was watched. These proved of no avail, and on Thursday afternoon, the patient having become drowsy and much weaker, Mr. Lucas cut down on the remaining kidney, and removed from the pelvis a conical calculus, measuring seven-eights of an inch by one-half in its greater diameters. Total suppression had then lasted one hundred and two hours. A free flow of urine took place at once through the wound, and the patient was relieved of her vomiting and drowsiness. Five days after the operation she was doing well and feeling comfortable.

HERPES TONSURANS AND FAVUS.—In some stages it is very difficult to distinguish between herpes tonsurans and favus. Dr. G. Behrend, of Berlin, has recently discovered a method which enables one at once to recognize which of the two diseases is before him. Behrend employed the reaction, observed by him and by Duckworth, which chloroform produces on hair attacked by trichophyton, the fungus causing herpes tonsurans. Whenever such hair is moistened with chloroform it shows, after the evaporation of the drug, which occurs within from two to three minutes, a perfectly white color, while normal hair experiences under its influence no alteration of color whatever. This change of color in the diseased hair proceeds only so far as the fungus had penetrated. The cause of this color-change is to be looked for in the splitting of the hair, and in the entrance of air through the clefts in consequence of this splitting. Though the hair is also split in favus, this never happens to such a high degree, and the chloroform reaction has no influence at all on favus. The same test cannot be used to determine the beginning of a cure, as the change of color cannot be so easily observed while the hair is in situ on account of the clear skin; but if a few hairs are extracted, and then subjected to the action of the chloroform, the same alteration of color will at once be observed, if the fungus is still present, while no such change will occur if the trichophyton has been destroyed.—*Centralblatt für Chirurgie.*

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 6, 1886.

THE RELAPSES OF TYPHOID FEVER.

THE subject of the relapses of typhoid fever has hardly received the attention it deserves from American writers. We take occasion, therefore, to present some facts regarding it, collected in part by Dr. R. Longet, and published in *L'Union Médicale.*

The frequency of relapses in typhoid fever is very variable. Among German and Swiss observers we find the following statistics given, showing the percentage of relapses: Liebermeister, at Basle, 7.4 before using baths, 9.8 after; Ziemssen, at Munich, 13; Pfeurer, at Munich in 1856, 3; Gerhardt, at Würzburg, 6.3; Griesinger, at Zurich, 6; Griesinger, at Leipsic, 8; Immermann, at Basle, 15 to 19; Henoch, at Berlin, 16.6; Nothnagel, 30. In France: Jaccoud, at Paris, 9; Daga, at Nancy, 7.7. In England and Scotland: Murchison, in London, 3; Maclagan, in Dundee, 10. Schroeder, in St. Petersburg, 2.5.

In this country we are not aware that any extensive collection of statistics regarding relapses has been made. The belief is common that such accidents are rare. Dr. James H. Hutchinson met with 5 relapses in 80 cases, which makes a percentage of 6.25.

Very few physicians have ever seen double or triple relapses of typhoid. Ziemssen states that among 2,140 he met with 4 cases in which the relapses occurred twice. Bucquoy and Ziemssen claim to have seen the typhoid relapse occur a third time.

Typhoid relapses rarely if ever occur in patients who have reached the age of forty, according to Steinthal; and, as a rule, the patients have not passed the age of thirty-two. Sex does not seem to have any influence on the tendency to relapse.

Nearly all authorities are agreed that in at least three-fourths of the patients who have relapses the primary attack is of a mild type. This may be accepted as an established fact.

The duration of the relapse is, in the majority of cases, shorter than that of the original attack. This was true in about four-fifths of the cases reported by Jaccoud, Schroeder, and Steinthal.

The question arises whether there is anything in the character of the primary attack, or in the symptoms after its decline, to indicate that a relapse may occur. Numerous indications and means of prognostication have been suggested, but of them all only one, we believe, deserves any confidence, viz.: the continued enlargement of the spleen after the close of the primary attack and during the interval of apyrexia. This should make it imperative for the physician to map out and mark the boundaries of the spleen, and to watch any changes in its size. The application of Ehrlich's diazor-benzole test will be a help in telling the nature of the pyrexia.

The duration of the apyretic interval ranges from one to forty-six days, but in nine-tenths of the cases the relapse occurs before the fifteenth day. If that day is reached without fever, the danger of relapse is practically passed.

The relapses occur either sharply, with perhaps a chill, or gradually, with an ascending febrile curve like that of the primary attack. The two types are about equally divided as to frequency. It appears, however, that when the relapse comes on briskly, its duration is likely to be shorter. Steinthal believes that if the patient have a dicrotic pulse during the first attack, and it be also marked in the relapse, the prognosis is bad.

The pathognomonic sign of the fever, *i.e.*, the roseola, is observed in from one-fourth (Jaccoud) to one-half (Steinthal), or even three-fourths (Ziemssen), of the cases. The eruption appears early; perhaps, on the average, about the fifth day, although it may be earlier or later.

The general character of the relapses, as is well known, is as a rule mild. Severe cases are very exceptional. The mortality in relapses was with Ziemssen 2.8 per cent.; with Schroeder, of St. Petersburg, 5.5 per cent.; with Steinthal, 8.8 per cent.

None of Hutchinson's 5 cases died. On the other hand, Murchison had a mortality of 7 among 53 cases, or nearly 14 per cent.; and Ebstein lost 3 out of 13 cases, or about 24 per cent.

The diagnosis of a relapse is not always made without difficulty, and no doubt mistakes have often occurred. A number of French writers have described pyrexial attacks occurring after typhoid, lasting one or two weeks, and having none of the symptoms of typhoid fever. Bernheim calls it a fever of convalescence, and ascribes it to "a habit of the nervous system." There is no doubt that mild septic or malarial fevers may follow typhoid and excite alarm. Of the nature of the second attack there is no uncertainty. It is a genuine typhoid fever, and in fatal cases a second set of intestinal ulcers is found.

The attempts to explain the pathology of the second attack have excited many discussions. It is most probable that there is simply a reinfection.

The practical question, whether a relapse can be prevented, seems to have excited very little interest as yet. We learn of no measures which are systematically recommended for an accident that occurs, on an average, in seven out of every hundred cases. It appears to be shown that active hydrotherapeutics tends to increase the per cent. of the relapses. A careful attention to the patient's discharges, to securing a plentiful supply of fresh air, and to the diet, is to be observed. The use of naphtholin, as recommended by Rossbach, disinfects the bowels, and may very likely be of advantage.

HEREDITARY SYPHILIS.

MR. HUTCHINSON, of London, in his third and final Lettsomian lecture, took up the vexed subject of hereditary syphilis, and discussed it in his usual clear and con-

vincing style. Almost all our knowledge on this point is of comparatively recent acquisition. It was not very long since it was held that the mother could convey syphilis to her child only by contagion at the time of parturition; and even when intra-uterine infection was admitted, there was still great scepticism as to whether the father could transmit the disease. As regards the whole subject of hereditary syphilis, the evidence is almost always circumstantial, and that which leads us to believe that a father could transmit syphilis independently of the mother is peculiarly of this kind. In any given case it is next to impossible to prove that the mother had never suffered. When, however, we find the history repeated hundreds of times, that a man known to have had syphilis marries a woman apparently healthy and believed to have been chaste, and a syphilitic child is produced without any obvious illness in the mother, we are forced to believe that inheritance from the father is not only possible, but common.

Exactly the same kind of proof was offered by Mr. Hutchinson in respect to the influence of an infected fœtus upon a previously healthy mother. He referred to a series of cases he had published many years ago, which illustrated the assertion of Ramsbotham, Harvey, and others, that the fœtus might infect its mother. The fallacy in all these cases is the obvious one that the mother might have had syphilis herself. There is, however, a limit to the acceptance of that explanation. Proof is wanted of two things: (1) That a woman may carry a syphilitic child without herself suffering in any obvious manner; (2) that she does really receive a taint, although showing no symptoms. Of the first the proof is abundant. That of the second is, perhaps, less convincing. It consists in the facts: (1) That women often present tertiary symptoms who have never had primary or secondary ones; and (2) that they are not susceptible to infection by their infants. Mr. Hutchinson said he had adduced many instances of the former; and, as regarded the latter, he certainly thought that Colles' law (that a sucking infant cannot infect the nipple of its own mother) stood the test of time. He had never seen an exception to it. He had seen cases in which women contracted chancres on the nipple from the mouths of infants they had suckled, but in no case was the infant which conveyed the infection the offspring of the woman who acquired the chancre.

About two years ago he had met with an apparent exception to Colles' law. A mother who was suckling her infant had a chancre on her nipple, and her child also showed symptoms of syphilis. On careful inquiry, however, the child was found to be the subject of primary acquired syphilis, and not of inherited taint.

Is it possible for a mother who acquired syphilis during her pregnancy to infect her fœtus? Mr. Hutchinson said that, as a matter of inference, he should be inclined to reply that, if sufficient time were allowed, she must almost necessarily do so. He had himself met with several cases which appeared to be very conclusive as proof of its occurrence, one of which he narrated.

Respecting the influence of inheritance from one or the other parent, Mr. Hutchinson said his conviction was that it made no difference. The inheritance was as certain or uncertain in one case as in the other, and he had not been able to trace any difference in the severity. Nor did he believe that the fact of both parents having suffered made any difference in the severity of the disease in the child, though it made the occurrence of the disease more certain. He then went on to discuss those cases in which syphilis was transmitted to several children in succession. He combated the generally received notion that the elder children always suffer most, though he admitted that interstitial keratitis is met with in first-born children in very disproportionate excess. His own belief was that there was no reason for thinking that the transmission of syphilis was ever a matter of degree, but rather that, if a child inherited any taint, it inherited the whole malady.

It is an interesting speculation whether the sex of the infant influences its liability to suffer. The speaker said he had endeavored in vain to find any law in respect to difference of severity of inherited syphilis in the two sexes. He remarked, however, that it was established by statistics that a majority of those who suffered from iritis in infancy, and from keratitis when adolescent, were girls.

As this whole subject is one which Mr. Hutchinson has made peculiarly his own, his opinions are necessarily regarded by every one with great respect, even when they cannot be accepted without qualification, and they are certain to excite interest and to furnish abundant food for thought.

NEW HYPNOTICS.

The chemical and pharmacological laboratories of Germany are competing with the flora of California for the honor of getting out the most new remedies. The latest contribution is an ethyl-ether, first used by Schmiedeberg. It is called urethran; it has the formula $NH_2 CO_2C_2H_5$, and is an ethyl-ether of carbonic acid. It occurs as a white crystalline body, easily soluble in water, and having a not unpleasant taste and no odor. The narcotic properties of urethran were first noted by Schmiedeberg on animals, and by Jolly on men. Dr. Kobert, of Strassburg, suggested its possible value as a hypnotic to Dr. R. v. Jaksch, of Vienna, the physician who first introduced thallin to the notice of the profession. It seems not unlikely that in urethran Dr. Jaksch has given us a drug of some value. To him, at least, belongs the credit of first thoroughly testing it. This he did first upon animals, and then upon twenty patients, making in all one hundred and ten separate tests. His experiments upon rabbits showed that, even in doses of seven grains to the kilogramme of body-weight, no toxic effects were produced. Jaksch began by administering the medicine in doses of four grains. This produced no result. He then gave it in half-gramme doses, with feeble hypnotic effect. The dose was then increased to one gramme (fifteen grains), and found to act with certainty and satisfaction. Urethran appears to act like chloral upon the brain, but it is a milder hypnotic. It does not affect the peripheral sensory apparatus, and therefore does not relieve directly cough or neuralgic pains. Jaksch concludes that urethran is very well borne by patients, causing no nausea, and having absolutely no disagreeable after-effects. The sleep which it produces is a natural one. The drug is without danger, and for this reason

he thinks it will be found very useful in children's troubles.

Hypnone, or methyl-phenyl-acetone, is a substance introduced into therapeutics by Drs. Dujardin-Beaumetz and Bartet. It is a liquid which crystallizes below the ordinary temperature in beautiful white needles, boiling at a temperature of 198° C. It has an odor resembling somewhat both that of the bitter almond and the orange-blossom. This odor renders the capsule of gelatine the most acceptable form of its administration. Popof and Neacke have shown that it is transformed in the system into carbonic and benzoic acids, and have detected its final transformation in the urine as hippuric acid. In the adult a dose of from five to fifteen centigrammes (gtt. i.–x.) produces sound sleep.

In order to obtain a well-marked hypnotic effect, the quantity proportioned to the age and temperament of the patient should be administered in a single dose. One of the inconveniences attending its use is that it communicates a disagreeable odor to the breath, being eliminated, like most volatile bodies, through the respiratory organs. M. Limousin recommends that it should be administered in doses of two drops mixed with a few drops of almond-oil in gelatine capsules. M. Vigier has given the following form for a syrup: Hypnone, one drop; alcohol (60°), one gramme; syrup of orange-flowers, six grammes. Of this mixture a teaspoonful corresponds to one drop.

Reports appear to show that the hypnotic effect of hypnone is not great, and that it is only of service in certain forms of nervous or alcoholic insomnia.

THE LAPAROTOMY EPIDEMIC.

THE *Medical Press and Circular* has aroused considerable discussion over the subject of the prevalent fondness, in certain hospitals, for performing laparotomy for the removal of the uterine appendages and other purposes. Comment was first caused by publishing a statement of Dr. F. Durlach, who said:

"Every Monday, at 2 o'clock, I see out-patients at the Hospital for Women. If, unable to attend, I were to tell the nurse to send into hospital those women who suffered most and had been longest ill, out of ten sent in, seven or eight would have some chronic inflammatory disease of the uterine appendages, and most of them would prove to be incurable without surgical treatment."

This, it was thought, was as much as to say that over half of chronic uterine cases need to be spayed.

The *Press* says that a crowded meeting of the members of the Liverpool Medical Institution was held on the 4th ult. to discuss this subject. The result of the discussion was that a resolution bearing on the subject was proposed by Dr. Grimsdale, and carried unanimously: "That in view of the large and increasing number of cases of abdominal section in the Hospital for Women in this city, as shown in their Annual Medical Reports for the years 1884 and 1885, this meeting is of opinion that a select committee be appointed for the purpose of investigating the grave questions of practice and ethics involved in the performance of these operations."

Whatever be the merits of the particular controversy stirred up in England, it is beyond question that laparotomy is now being performed with extraordinary, and probably unnecessary, frequency both in Europe and this country.

Every young gynecologist is ambitious to remove the tubes or the uterus, or at least an ovarian cyst; the older ones are equally anxious to remove a hundred.

It is not borne in mind, as it should be, that it is a most serious thing, morally, to unsex a woman, and that it is still a most dangerous thing to open the abdominal cavity. The small percentage of mortality attained by such men as Keith, Tait, and Schede is the result, in part, of an extraordinary manual dexterity which few possess naturally, and fewer still ever can get the opportunity to acquire. There are very few men who really understand even the technique by which the operation is made so free from danger. The mortality from the laparotomies of most American and English surgeons is comparatively high, and serious harm has, we fear, been done by the wide heralding of the extraordinary success of a few adepts.

CALOMEL REDIVIVUS.

WE hear, in a somewhat regular periodicity, of the old Kentucky doctor who said (usually on his death-bed) that there were only four medicines in the Pharmacopœia, all the rest helped the druggist but hurt the patient. These medicines were opium, quinine, a purgative, and calomel. The last-named drug has been greatly abused, but there is no doubt that it deserves its position in the medical tetrarchy above mentioned, and in the last decade it has been used more and more extensively. We have occasionally discussed its alleged virtues in "sedative" doses in diphtheria and pneumonia. We cite below some recent recommendations of its use in various other fields:

Dr. Jendrássic has found, in cases of cardiac dropsy, that calomel in appropriate doses causes well-marked diuresis, a "sort of diabetes insipidus," by which the results of want of cardiac compensation, dropsy and œdema, are dissipated. The effect comes on within twenty-four hours; one and a half grain of the drug being given three to five times a day. No diarrhœa is usually produced; but, in some cases, it had to be prevented by the administration of laudanum. Salivation and stomatitis were obviated by the prescription of a chlorate of potash gargle from the first. The result, in all cases in which the treatment was adopted, was beneficial, no unfavorable depressing symptoms being noticed.

Professor Sacharjin has recently recommended the employment of calomel in a number of disorders beginning with affections of the bile-ducts and hypertrophic cirrhosis of the liver. "Those cases," he says, "are especially suited for calomel treatment that present as marked features constant pain in the hepatic region and fever. The calomel should be given in doses of one grain, at hourly intervals, until six doses are taken. Thereupon the powder may be administered every two hours. Not more than twelve successive doses should be given. Thus no diarrhœa of any serious consequence happens. It is advisable to attend strictly to cleansing the teeth at frequent intervals, and chlorate of potash is suggested as a mouth-wash."

Calomel used as above is recommended in erysipelas

occurring in elderly persons with a tendency to heart-failure. Also in the first week of typhoid fever if no diarrhœa exists.

In acute lobar pneumonia digitalis, quinine, salicylate of soda, and cold water do not accomplish as much as calomel, which we are told should be administered early.

Acute Bright's disease is another condition that Sacharjin has treated with calomel, with the result of reducing the fever, relieving pain, and rendering the urine less albuminous. Profuse diarrhœa and great feebleness are to be considered as contra-indications.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

THE latest authentic accounts pronounce matters all quiet since the election of delegates from the Philadelphia County Medical Society to the American Medical Association. We are informed that the action taken at that time represents the sentiment of the great majority of the best physicians of Philadelphia, and that those who have talked most about "packed meetings" have not moral or numerical strength enough to venture on a protest.

THE QUESTION OF VAGINAL INJECTIONS.

IT would be highly interesting to learn how many of the women who go away from the doctor's office with orders to use hot vaginal injections carry out the orders, and also how many carry them out properly. The percentage of conscientious and skilful injectresses, if we may be allowed the word, is certainly extremely small. This is partly due, no doubt, to the somewhat elaborate and unpleasant gymnastic performances that, we are told, are necessary for carrying out efficiently the hot-water treatment.

Rubber cloths, or patent pans, syringes, buckets, chairs, boiling water, and medicating powders are the necessary factors in the treatment, and the collection and symphonic arrangement of these particulars form a considerable task to the head of a household. If women do not absolutely dislike these hot-water calisthenics, they certainly are not fond of them, and give up the practice on the slightest excuse. Whether it is the general complexity or the ungraceful horizontalness of the process which is most repugnant to woman, we are not prepared to say.

In a recent communication in the *Journal of the American Medical Association*, Dr. W. Thornton Parker seems to think that it is the posture which most modest women object to. And he comes to their relief with the statement that an injection given in the sitting position may be just as efficient. He recommends that the woman use the bidet, which is a triangular stool about sixteen inches high, containing a porcelain basin. This is filled with hot water, and the patient, sitting astride of it (the bidet), injects the fluid with a Higginson, English, or Parker modified syringe.

The *Weekly Medical Review* comments somewhat sarcastically upon Dr. Parker's plan, and defends the old method. No doubt this latter is better when properly and thoroughly applied, but we are inclined to think that women will take more kindly to the simpler and more æsthetic process suggested by Dr. Parker. And in most cases the bidet method, systematically used, is better than an irregular and spasmodic indulgence in the conventional saturnalia of buckets, blankets, pans, stools, and so forth.

SPECIALLY TRAINED MEDICAL MISSIONARIES.

IT is announced that "to train young men in the practice of medicine and surgery, so as to fit them for work in China, India, or Africa as medical missionaries, the New York Medical Missionary Society requires, during the present year, $5,000." Of this amount $1,400 has already been subscribed, Mr. Cornelius Vanderbilt contributing $600 and his brother, George, $300. Five other gentlemen have contributed $100 each. In order to assist in raising the balance, a meeting was held at the Broadway Tabernacle during the past week, at which the matter was presented and appeals for help made. Fifty applicants desire to be educated as medical missionaries, but the society can only pay for nine. With such a surplus of young graduates in medicine as is furnished every spring, we confess that we are at a loss to see the need of special funds for specially educating medical missionaries. Of the four thousand annual graduates in medicine, we only need two thousand. All the rest might very well be employed in disseminating the gospel in foreign parts.

ADVICE TO HARVARD STUDENTS.

PROFESSOR T. R. EDES JACKSON gave one of a series of lectures on the professions to the students of Harvard College this week. He presented the subject of success in the medical profession.

"One great drawback to the profession," he said, "lies in the fact that the law offers it no protection, as it does in other countries. It is a curious fact that, in the United States a certificate of insanity is the only thing which requires an education of a physician; in nothing else does the law interfere. The consequence is that the country is overrun with people who call themselves physicians, but who are such only in name. This state of things, instead of turning educated men away, ought to bring them to the profession. By this means can the line be drawn deep and wide between the real and the sham physicians. What is needed most is men of learning and practical knowledge to elevate the profession in the eyes of the public."

Professor Jackson does not seem to have described the opportunities offered by the medical profession to educated men in strong enough light. We believe that there is no better opening than medicine for thoroughly educated young men, who have any kind of aptitude for getting along.

Professor Jackson is mistaken also in saying that medicine necessarily requires an entire and exclusive devotion beyond that demanded by other pursuits. This is an old commencement oration myth, and it is time it were laid on the shelf.

M. PASTEUR'S SUCCESS.

M. PASTEUR has announced to the Académie des Sciences that his inoculation-method against rabies has been successful in 325 cases. The 325 cases include, we presume, the Newark children, who were not bitten by mad dogs at all, and probably a number of other perfectly

healthy people. One must take from the 325 also the seventy-five per cent. of people who, although bitten by mad dogs, yet never get rabies; and finally, we must take out those in whom there has not yet been time—now only about four months at the furthest—for the disease to develop. With these necessary depletions, Pasteur's figures become of very insignificant proportions.

News of the Week.

THE HEALTH OF WORKING WOMEN.—According to the Commission on Labor Statistics for the State of New York, the health of working women is in the main fairly good—as good, perhaps, as the health of women generally. Working women are rarely subject to the diseases resulting from injurious trades like those of painting, working in mercury, etc. As a rule, work in factories is more healthful than work in houses.

M. J. B. BAILLIÈRE, who recently died at the venerable age of eighty-eight, was the leading medical book-publisher of Europe for many years. The numerous eulogistic notices and addresses which appeared after his death have been collected into a memorial volume, a copy of which has reached us. It forms an eloquent record of a well-spent life.

FREE BURIAL is granted in all cities to the paupers, but the mortuary rites are so extremely simple, and the funeral supplies so painfully meagre (being limited to a pine box and a contract shroud), that no one who can possibly raise enough money for the undertaker will allow a relative, friend, or acquaintance to be buried at public expense. Undertakers' charges are, however, often a serious tax on the poor. We recall a case in which a patient died of acute phthisis, the disease lasting about two months. The doctor's bill was $33, the undertaker's, $125. The city of Basle, Switzerland, has recently passed a law providing free burial to all its residents. The State provides the grave, coffin, pall, hearse, and sufficient employés for attendance at the funeral.

THE INTERNATIONAL MEDICAL CONGRESS.—The prevailing feeling here regarding the Congress now is one of profound apathy and indifference. The news from abroad is equally discouraging. Almost the only smiling face is published at Chicago weekly. We hope for better news after the St. Louis meeting.

BILLROTH AND ESMARCH ON THE STUDY OF LATIN AND GREEK FOR THOSE INTENDING TO STUDY MEDICINE.—Professor Billroth has written a letter upon the above subject to Herr V. Pirquet. Billroth states that he entirely agrees with the already expressed views of Professor Esmarch, viz., "that medical language is so filled with Latin and Greek words that some knowledge of those languages is absolutely necessary for medical students; and nothing shows the parvenu more plainly than his use of foreign words of which he does not understand the meaning. Although Latin and Greek are no longer international languages of the learned, they help to make scientific men of different nationalities understand each other, and to-day all new scientific terminology is still formed from the Greek." Billroth thinks that it would be sufficient for the student to study Latin and Greek grammar, and read, in Latin, Cæsar, some of Cicero, Ovid, and Virgil; in Greek, Xenophon and Homer. Professor Esmarch's views coincide with those of Billroth.

PASTEURIZATION FOR THE PREVENTION OF DIPHTHERIA.—The news is cabled from Paris that M. Pasteur believes that he can prevent or cure diphtheria by a process of inoculation.

JOHN HUNTER'S HOUSE UNDER THE HAMMER.—On February 16th and 17th the old house at Kensington once occupied by John Hunter was sold at auction. Among the articles advertised for sale was "the historical copper, coving and fittings, used for the purpose of boiling the remains of the Irish giant, Byrne O'Brian."

THE ASSOCIATION OF PHYSICIANS AND PATHOLOGISTS.—A national association under the above name is in process of organization. Two preliminary meetings have already been held in this city, at which it was decided that the association should be organized with a membership limited to one hundred; that it should hold an annual meeting at Washington in June, and that the first meeting should he held in that city June 16th and 17th in 1886, under the presidency of Dr. Francis Delafield.

A SARCOMATOUS TUMOR MADE TO DISAPPEAR BY AN ATTACK OF ERYSIPELAS.—A girl, aged eight, had a sarcomatous tumor larger than a hen's egg, involving first the left tonsil, and later nearly the whole posterior half of the buccal cavity. Tracheotomy had to be performed. The patient then caught erysipelas from another patient, the disease lasting six days. At the end of this time the tumor was reduced to two nodules, the size of a pea, which were excised. Two months later, says Dr. D. Biedert, who reports the case, the disease had not returned.

COCAINIZATION BY THE CATAPHORIC ACTION OF THE ELECTRIC CURRENT.—At a recent meeting of the Royal Society of Physicians of Vienna, Wagner announced that by saturating the positive pole of the galvanic battery with cocaine, and placing the two poles on the surface of the body near each other, the cocaine is carried into the tissues, producing inter-polar anæsthetization. This has been tried by several physicians in this city some time ago, but with no results of practical value.

THE NEXT MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The organization of the next meeting of the American Medical Association, to be held in St. Louis, Mo., on May 4th, 5th, 6th and 7th, is announced as follows: Practice of Medicine, Materia Medica, and Physiology: Dr. J. T. Whittaker, Cincinnati, O., Chairman; Dr. B. L. Coleman, Lexington, Ky., Secretary. Obstetrics and Diseases of Women and Children: Dr. S. C. Gordon, Portland, Me., Chairman; Dr. J. F. Y. Paine, Galveston, Tex., Secretary. Surgery and Anatomy: Dr. Nicholas Senn, Milwaukee, Wis., Chairman; Dr. H. H. Mudd, St. Louis, Mo., Secretary. State Medicine: Dr. John H. Rauch, Springfield, Ill., Chairman; Dr. F. E. Daniel, Austin, Tex., Secretary. Ophthalmology, Otology, Laryngology: Dr. Eugene Smith, Detroit, Mich., Chairman; Dr. J. F. Fulton, St. Paul, Minn., Secretary. Diseases of Children: Dr. W. D. Haggard, Nashville, Tenn., Chairman; Dr. W. B. Lawrence, Batesville, Ark.

Secretary. Oral and Dental Surgery: Dr. John S. Marshall, Chicago, Ill., Chairman; Dr. A. E. Baldwin, Chicago, Ill., Secretary. "A member desiring to read a paper before a Section should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the Chairman of the Committee of Arrangements, at least one month before the meeting."—*By-Laws.* Committee of Arrangements: Dr. Legrand Atwood, St. Louis, Mo., Chairman.

Amusing the Insane.—Praiseworthy efforts are being made at the Hudson River State Hospital for the insane to carry out the modern idea of keeping the insane patients occupied and amused. Statistics show that a very large majority are kept employed more or less of the time in work or amusement. One of the novel features is the establishment of a day-school which about sixty men and forty women attend. The efforts to secure musical entertainment have their humorous side. Dr. Atwood, one of the Assistant Physicians, in his report, says: "An attempt was made to organize a band, or orchestra, and six meetings of all patients and attendants possessing any musical ability were held in the amusement hall for rehearsal. The leader of the proposed band, however, having by this time run away, and the B flat cornet becoming unusually disturbed, the drum and bass-horn were considered scarcely adequate in themselves to please the public, and the idea was postponed until our corps of employés is increased, and we have our accommodations for the chronic insane."

The Pathological Future of the Negro.—The Florida *Medical and Surgical Journal* draws a graphic but gloomy picture of the negro of to-day, and predicts for him physical decay and moral ruin. It is intimated, also, that the Southern doctors do not take so much interest in the negro's condition, since "the rattle of the planter's shekels" is no longer behind him. Some hopes of improvement are expected from the educated negro doctors, who have already done good work among their fellows. We share in these hopes, and, with all respect to the cloth, think that if one-half the colored clergymen were asphyxiated and their places taken by intelligent medical men, the negro's condition would be vastly improved. The negro is not dying out, however, for though the death-rate is enormous in cities, it is more than balanced by the high birth-rate and low death-rate in the country.

A Pernicious Anæmia may be caused by the presence in the intestine of the parasite *ankylostonum duodenale.* This fact, first discovered by Perroncito and Corseoli among the workmen in the St. Gothard Tunnel, has been confirmed by later observers. Recently Dr. Edwin Snyers, in the *Progrès Medicale*, reports several cases occurring among workmen in a brick-yard near Cologne.

Cremate—Cremation—Crematist—Crematorium; these are the new words introduced by a new journal called *The Modern Crematist*, published at Lancaster, Pa., and devoted to cremation. It includes, under a sub-title, "Cremation Gossip." A dealer advertises "cinerary urns," and a crematorium company announces its constant readiness to receive and incinerate bodies. If friends accompany the body, they are advised to "buy a regular ticket, and check casket as baggage." The knowledge that mourning children can check their parents as baggage, and get a trip to Pennsylvania at practically reduced rates, is of interest, and shows that cremation has passed the sentimental stage, and got upon a solid commercial basis.

Railway Hospitals for Injured Employees.—Most railroads do not attempt to care for injured employees. We learn from Dr. E. R. Lewis, in the *Kansas City Medical Index*, that the Wabash, St. Louis, and Pacific Railway Company have established a surgical service for the benefit of their employees. These latter have to pay a small percentage of their wages to form a hospital fund. With this two hospitals are supported, one at Springfield, Ill., and one at Kansas City.

A Plea for the Madstone.—A Washington physician writes to the Washington *Post* a plea for the madstone. The physician in question states that he feels a debt of personal gratitude toward the mystic mineral because his grandmother was cured of rabies by it when a girl. This, no doubt, gives a little bias to the correspondent's opinions. He says that he has witnessed the application of the madstone to wounds caused by the bite of a rabid dog. The adhesion of the stone was so strong that it remained *in situ* even when the wound was turned down. Well! folly dies hard.

A New Neurological Journal has appeared in Chicago. It is called the *Neurological Review*, and is edited by Dr. J. S. Jewell, who established, and for some years edited, the *Journal of Nervous and Mental Diseases.*

Medical Advertising in the Daily Papers.—Another flagrant instance of medical advertising in the daily papers has appeared in Auburn, N. Y. The operation described was the common and simple one of wiring the bones in a case of reunited fracture, but it was heralded as "a remarkable surgical operation" which "for nerve and nicety has hardly been equalled." The young seeker after notoriety who procured this notice is doing things "unworthy of a physician and a gentleman."

The Mad Dogs of Newark.—The dog that bit the Newark children who were sent to Paris to be inoculated by Pasteur also bit seven dogs, which have been kept in seclusion ever since. On March 2d the dogs were released, none of them having developed rabies. The probability is very great, therefore, that the dog which bit the Newark children was not rabid, and, consequently, that the excitement aroused over the subject of hydrophobia in that city was uncalled for.

Rush Medical College held its Forty-third Annual Commencement on February 16th, and graduated a class of one hundred and fifty-six.

Dr. N. S. Davis.—We are sincerely glad to learn that Dr. Davis has, in a great measure, recovered from his attack of hemiplegia.

All Preparations of Morphine lawfully sold in the State of Georgia must be wrapped in a scarlet paper, and marked with a scarlet label naming the contents of the package in white letters.

DOES IT DO ANY GOOD TO SUPPORT THE PERINEUM DURING LABOR?—A correspondent writes, citing the statement made that perineal lacerations are very rare in the Vienna Hospital, and asking whether there is any demonstrative evidence that supporting the perineum does any good in ordinary cases of labor. Judging by the frequency of perineal lacerations either support does no good, or the practice of supporting the perineum is not very prevalent.

THERE IS NOT A HOSPITAL IN LONDON which is not expending more each year than it receives. So says *The Hospital Gazette.*

AMERICAN VETERINARY COLLEGE.—The Eleventh Annual Commencement of this institution was held at Chickering Hall on Monday, March 1st, before a large audience of the friends of the college. Twenty-eight graduates received the degree of Doctor of Veterinary Surgery.

A STATUE TO CLAUDE BERNARD has been erected in the garden in front of the College of France, and was unveiled on February 7th. Addresses were delivered by M. Paul Bert, Professor Chauveau, and M. Dastre.

HOMŒOPATHISTS SEEKING REPRESENTATION ON THE STAFF OF THE MASSACHUSETTS GENERAL HOSPITAL.—The *Boston Medical and Surgical Journal* says: "The trustees of the Boston City Hospital gave a hearing Friday evening, February 19th, to the remonstrants against the petition that homœopathy should take part in the medical and surgical treatment of patients at the hospital. Members of the hospital staff were present by special invitation of the trustees."

THE DEATH OF DR. WM. WETZEL, of this city, is announced. Dr. Wetzel was a graduate of Carlsruhe, in 1846, but had practised medicine in this country for many years.

WHAT SHOULD BE DONE AT THE ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The Kansas *City Medical Index* says: "The St. Louis meeting will do the profession no credit, unless the wiser and more considerate members from both factions get together and frame a compromise to be submitted without debate. By some such mode of settlement as this the Congress may have an eminently creditable meeting in the end. In order to save the American profession from disrepute, harmony must be restored at the St. Louis Association meeting. Concessions should be made by both factions, and the whole matter quietly settled by a fairly constituted council."

The Nashville *Journal of Medicine and Surgery* says: "The topic of the International Medical Congress will be the absorbing question for discussion, and will, we hope, be definitely settled, at least so far as it relates to the Association. Of late years this Association has appeared to degenerate into a body merely medico-political, and it is time something were done to elevate it to a proper standard and make it what the British Medical Association is to the profession in England—representative and national. Political intrigue and trickery have too long held sway in this Association, and it is time the profession saw to it that it be no longer thus degraded, and be brought back to the place it occupied in its palmiest days. We hope, therefore, that all who can will make an effort to attend the coming meeting.

THE LATE DR. ALFRED C. POST.—At a special meeting of the Medical Board of St. Luke's Hospital, held February 20, 1886, the following was unanimously adopted:

Whereas, It having pleased God to remove from our ranks our beloved associate, Dr. Alfred C. Post, who was from the first organization of the medical staff till his death—a period of twenty-seven years—one of the consulting surgeons of St. Luke's Hospital, we desire to record our appreciation of our loss.

Dr. Post was the oldest member of our board. Up to within a few days of his death he was a constant attendant and much valued adviser at all important operations. His vast experience, his extensive knowledge on all topics connected with our professional work, his sound judgment, and his readiness to assist others, make his loss to our hospital staff almost irreparable. He brought to our councils the surgical knowledge of a former generation, and complete information with regard to the results of the most recent scientific investigations. Dr. Post's whole life, moreover, social as well as professional, bore the impress of a rarely honorable and Christian character. His loss will be deeply felt by the entire community, in which he spent a long and eminently useful life. We desire, also, to tender to the members of his family our deep sympathy with them in their affliction.

ROBERT ABBE, M.D.,
CHARLES MCBURNEY, M.D.,
A. B. BALL, M.D.,
For the Medical Board.

Reviews and Notices.

A GUIDE TO SANITARY HOUSE-INSPECTION; OR, HINTS AND HELPS REGARDING THE CHOICE OF A HEALTHFUL HOME IN CITY OR COUNTRY. By WILLIAM PAUL GERHARD, C.E., Consulting Sanitary Engineer; Author of "House-Drainage and Sanitary Plumbing," "Hints on the Drainage and Sewerage of Dwellings," and "Diagram for Sewer Calculations." New York: John Wiley & Sons. 1885.

THE family physician is very often consulted by his patients as to the healthfulness of their dwellings, or is led to inquire into the sanitary conditions of a house by reason of the occurrence of disease among several members of the same family. And it is safe to say that he is frequently no better qualified to pass judgment upon these matters than is the householder himself. In such a predicament this little book will prove very useful to him, by pointing out the most common defects and enabling him to detect them if present. It contains just enough to give one an intelligent idea of the essentials of house-inspection without wearying the reader with minute details. And not only the physician, but every one who cares for the health of himself or his family, will find this practical little work of service.

ALPINE WINTER IN ITS MEDICAL ASPECTS, with Notes on Davos Platz, Wiesen, St. Moritz, and The Maloja. By A. TUCKER WISE, M.D., L.R.C.P., M.R.C.S. Second edition. London: J. & A. Churchill. 1885.

THE attention that has been given of late to high altitudes in the treatment of disease makes the work of Dr. Wise a timely one, though more especially so for European physicians. The book contains a few chapters on the physiological effects of high altitudes, cold, ozone, etc. The rest is devoted to descriptions of the Alpine resorts, and to plain, practical directions as to how to dress and live in these places. An excellent map prefaces the book

Reports of Societies.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 5, 1886.

BEVERLEY ROBINSON, M.D., PRESIDENT, IN THE CHAIR.

NERVOUS DEAFNESS.

DR. SAMUEL SEXTON presented a case of nervous deafness, occurring in a case of supposed poliomyelitis. The patient was a Swedish sailor, who, after a difficult cruise around Cape Horn, was exposed to the heat of a tropical sun. This occurred five years ago. Immediately afterward he became "blind" while in the harbor of Rio Janeiro. Four months later on, while on board ship, the lower limbs became paralyzed, then the upper extremities and face. Five months later *he became suddenly very deaf.* He now states that for the past three years he has been drifting about in foreign hospitals, with, possibly, some improvement in the hearing. His appearance is peculiar, especially the facial expression, there being paresis of the region below the eyebrows. He gives no history of syphilis or accident, and there appears to be no anæsthesia or paralysis of the bladder or rectum. He has had no pains in the head or marked vertiginous symptoms.

Present condition of the hearing organs.—The drumheads do not indicate any serious departure from health, but he is very deaf to ordinary conversation, in fact hears loud voice only. He takes cognizance of what is said to him hesitatingly, and is, therefore, "slow of hearing," so to speak.

Dr. Sexton drew attention to the method of employing the tuning-fork as a means of differential diagnosis, as between affections of the transmitting apparatus of the middle ear and those of the perceptive tract of the inner ear; thus, he showed that in applying the vibrating fork to the vertex, the result was negative; to the globella, a sensation was imparted which the patient said was rather felt than heard; while vibrations propagated from contact with the teeth are, though best conducted of any, heard but faintly. Granting that the middle ears are fairly normal in this case, we should, of course, have defective perception from bone conduction, as well as from aërial; but since the defect in this case lies almost exclusively in the perceptive tract of the ear, the sounds are better heard aërially when the vibrating fork is held close to the ear. Were the transmitting apparatus of the middle ears only affected, the patient would hear the vibrations of the fork through the tissues loudly.

The patient was brought before the Society on account of the extreme rarity of "nervous" deafness, and to obtain from the members suggestions as to the diagnosis of the brain trouble and the treatment of the case.

DR. WILLIAM T. BULL read a paper (see p. 265) entitled,

SOME SURGICAL POINTS IN THE TREATMENT OF PERITYPHLITIS.

DR. GEORGE F. SHRADY said he agreed in the main with what Dr. Bull had said. There was no argument against the evacuation of pus as soon as it could be discovered, and the needle gave us the surest indication. The presence of pus indicated the walling-in process by adhesive inflammation; and while it was well to operate early, it was well, also, to be sure that the time for operation had come. He had been led to believe that, occasionally, some of the early symptoms were masked. In fact, the first case reported by Dr. Bull seemed to be one of that kind, as it was not a case in which pus had formed within forty-eight hours. The rule given by the late Dr. Parker as to the time when the incision should be made was between the fifth and the twelfth day. He also advised the early use of the needle. In one cas in which an incision was made on the sixth day a burrowing abscess formed, and a second operation was performed five or six days afterward.

With regard to perforation of the intestine, he had had one well-marked case, occurring on the tenth day in a farmer who had the characteristic symptoms, as pain, vomiting, localized swelling, dulness on percussion over the right iliac fossa, and œdema of the integument—which he had noticed in four or five cases, and had come to regard as rather pathognomonic of deep-seated inflammation. On the seventh day he prepared to operate, but the patient had a movement from the bowels, and there was pus found in the stool, which indicated that the abscess had ruptured, and recovery took place without operation.

Dr. Shrady thought it important, in cases of typhlitis or perityphlitis, to keep the patient perfectly quiet, and give nature an opportunity to wall in the abscess. He knew of two cases in which death took place, where due regard to these points had not been observed. In one, rupture of the abscess occurred while attempting to get out of bed, and in another, vomiting broke up recent adhesions. He believed in an early operation when a positive diagnosis could be made and the presence of pus could be ascertained, and the needle was the only sure guide.

DR. GIBNEY thought the argument given by Dr. Bull for early operation was very convincing. If he understood correctly, Dr. Shrady thought it advisable to wait for the walling-in of the abscess to take place.

DR. SHRADY thought the abscess was, as a rule, already walled in before we got a chance to attack it. In fact, plastic lymph was almost invariably thrown out before the pus was formed. It was wiser to wait a reasonable time for these adhesions to become firm than to run the risk of breaking them up by operating too early.

DR. GIBNEY said the cases reported by Dr. Bull were extremely interesting; but especially the one in which he made an incision after finding pus with the needle, and without finding any more pus, and the boy recovered. The query arose, Where did the pus drawn by the needle come from?

DR. BULL said he did not know. No pus could be discovered after the incision was made.

DR. GIBNEY said he asked the question for the purpose of leading up to another; that is, whether an abscess might not exist, and even the patient walk about, and yet make a recovery with apparent resolution. He had seen a number of cases in which there was apparently idiopathic perityphlitis; that is, simply a cellulitis about the vermiform appendix not depending upon any foreign body in the appendix. He had seen quite a number of children, varying in age from eight to ten years, who presented the characteristic deformity of hip-disease, yet who exhibited but little constitutional disturbance except a localized cellulitis. There was, however, no spinal disease, and these children made a good recovery with resolution taking place, and at the same time he had thought he was able to detect fluctuation. He was not allowed to go further in the way of diagnosis, because it was against the rules of the institution with which, at that time, he was connected; and he had wondered what became of these patients. He would ask Dr. Bull whether they could not have been ambulant and stil have perityphlitis, or whether there was such a thing as primary idiopathic perityphlitis recognizable.

DR. G. L. PEABODY had had a somewhat melancholy experience, and the result had led him to be more radical than even Dr. Bull had expressed in his paper. He had made a large number of autopsies in such cases, and had made five within the last four months. He was convinced that many lives could be saved by early and radical interference, even where pus could not be detected by the needle. He recollected distinctly the case of a child who presented all the usual symptoms of this disease, and where the needle did not detect pus, although freely and skilfully used; but the autopsy revealed a small abscess behind the cæcum, which perhaps might have been relieved by more extensive operative procedure. Such

an operation was as likely to do well as any other incised wound, provided vital structures were not injured. He had seen quite a number of deaths from general peritonitis in which he believed life could have been saved if the operation had been resorted to early.

In the five cases in which he had made autopsies within the last four months, one had several accumulations of pus, such as could not be reached by a surgical procedure. He thought that the physical signs of dulness and sensation of resistance were rarely directly proportionate to the amount of pus which the tissues contained. In such a case as Dr. Bull had reported there were dulness and a sense of resistance in the region of the cæcum, and, although the needle detected pus, it detected only a few drops; but an operation, quite radically performed, did not reveal any considerable amount of pus, yet there was a necrotic condition of connective tissue around the cæcum all the way from the rim of the true pelvis to the diaphragm, without forming much of a collection of pus. If that patient had been operated upon early perhaps the inflammation could have been cut short.

He thought we were a little apt to be led astray by finding acute general peritonitis at the autopsy, which might lead to the supposition that the pus was not sacculated; whereas such an inference could not be properly drawn, because the general spread of inflammation may have been a secondary affair, and in consequence of the operation having been delayed too long or the patient moving about too much.

He made an autopsy several years ago in which there was no collection of pus near the cæcum, but there was pus about the peritoneal cavity, and the deduction was that the operation would not have done any good. But Dr. Peabody's inference was that if the operation had been performed early very much good would have been done.

In only one of the five cases was there any considerable quantity of pus in the peritoneal cavity, but in two there was acute general peritonitis, with pus sacculated about the vermiform appendix and behind the cæcum.

It seemed to him that in the hands of skilful surgeons, as Drs. Bull and Shrady, the operation was quite devoid of danger, and he would not turn aside from it because pus was not reached by the needle; for small collections of pus might be missed by the puncture, whereas a more extensive operation would evacuate an abscess.

Dr. A. B. Ball remarked that the symptoms of general fatal peritonitis as the result of perforation might run their course in from eighteen to thirty-six hours, and develop in the midst of perfect health.

Dr. Peabody said that even in such cases surgical interference should not be precluded.

Dr. Sexton asked concerning the difficulties of diagnosis in protracted cases of this kind.

Dr. Ball thought that Dr. Shrady had partly answered the question, because he had called attention to the fact that people do have large collections of pus and yet are actually able to walk about, and present only very trifling symptoms. He did not remember to have seen such a case, except once, a good many years ago, and that was an abscess following a stab-wound in the lumbar region. The man was sent out from Bellevue Hospital, supposed to be perfectly well. He walked as far as the corner of the street, and was thrown off from the street car, and died a few hours afterward, and it was found that there was a large peri-nephritic abscess which had burst into the peritoneal cavity. He did not believe that such occurrences were very common, but he certainly believed that they existed. So far as local signs of abscess were concerned, they could be questioned, because there might be a certain quantity of gas within the cavity which did away with dulness on percussion.

With regard to ambulant cases, he recalled a remarkable one of this kind which occurred several years ago, where a young lady had been ill in the country with what her attending physician said was inflammation of the bowels. She convalesced, and finally came home. She was able to sit up in the cars, and rode from the depôt in a carriage, and passed a very comfortable night after reaching her home. In the morning she came down to breakfast, and after her breakfast played on the piano. About two hours afterward she was suddenly taken with severe coughing, accompanied by a sense of suffocation and profuse expectoration of pus. Dr. Ball saw the patient within fifteen minutes after this occurrence, and found her dying, and she did die within a few minutes. The autopsy showed that the girl had had an immense perityphlitic abscess which had burrowed, formed a large collection of pus between the liver and diaphragm, and had burst into the right lung. At the time of the autopsy more than one pint of pus was found between the diaphragm and the liver.

Dr. Gibney said that he would not oppose early operations or exploration, but he simply spoke of the cases which he had mentioned, because patients do sometimes go about and resolution occur. He would not wish, however, to go so far as Dr. Peabody recommended, nor so far as Dr. Bull had advised.

Dr. Kinnicutt said that according to his experience, and he thought it was also that of all the gentlemen present, attacks of inflammation in the region of the head of the colon were very common, and yet he thought it was often quite impossible to determine what was the source of irritation or inflammation. He was taught that in a certain number of cases distention of the cæcum from accumulation of fæces was one of the causes, but he had not been able to convince himself that such was the case. One reason why it had been so taught, probably, was because the evidence of tumor had been obtained, and it had been regarded as a tumor formed by fecal accumulation; but he believed that it was simply a tumor produced by inflammatory exudation, which in many cases undergoes spontaneous resolution. He was firmly convinced, however, that if, after a period of a week, at most ten days, some elevation of temperature was maintained, with constipation and evidence of tumor in the right iliac fossa, an exploration should be made. He had not seen a case go beyond ten days without suppurative process existing, and if it does exist the sooner an exploratory incision is made the better it is for the patient. He would ask if the experience of the other members coincided with his own, in that after a period of ten days, with evidence of distinct tumor in the right iliac fossa and elevation of temperature, suppuration did not exist.

Dr. Peabody said he had seen one case in which all these symptoms were present, and where repeated puncture failed to detect pus, but fever continued; yet the result showed that conservatism was wise, because the boy got well. It was a case, however, in which the symptoms were not very well marked, yet they were so distinct that three competent men who saw the patient agreed that they were present.

Dr. Kinnicutt said that perhaps he should have been more definite, by including only cases in which evidences of tumor were perfectly distinct. There was another point to which he had not heard reference made, and that was the tendency to recurrence of this trouble in patients who had had it once. He had seen a patient with three recurrences, and in each instance resolution took place.

Dr. A. A. Smith asked if any of the members present had noticed any relation between this disease and mental depression. He had seen three cases following very great mental depression, one occurring in a gentleman who met with great reverses in business; one in a lady who suffered from mental depression; and another in a gentleman who was afflicted with loss of both family and fortune.

Dr. Ball said that he had seen about fifteen cases, and he had not observed this element.

Dr. Gibney suggested that mental depression might

interfere with digestion, and that indigestion might be a predisposing cause to such intestinal trouble.

Dr. Smith regarded the two conditions as merely coincident in his cases.

Dr. Ball referred to a point of some importance, namely, that perityphlitis sometimes runs its entire course without elevation of temperature; that suppuration may occur within the first few days of the disease, after which the fever subsides, while the suppurative process goes on. He saw a case three years ago, occurring in a little boy, where, after three or four days, the fever subsided entirely, tenderness disappeared, and there was such a marked amelioration of symptoms that both he and Dr. Sands, with whom he saw the patient in consultation, regarded it as a case in which there was no suppuration. The boy, however, was very suddenly seized with abdominal pain, fell into collapse, and died within ten hours, and on examination it was found that the abscess had ruptured into the peritoneal cavity and excited a fatal peritonitis. There were in this case the usual symptoms of perityphlitis, with the existence of tumor and distinct resistance on palpation. The needle had not been introduced.

Dr. Shrady referred to a case in which resolution took place and in which there was tumor, fever, and limited dulness on percussion. The symptoms continued seven days. The patient was a lad twelve years of age. The mother objected to the use of the exploring needle. The patient was kept quiet, and is alive to-day. He could also refer to the case of a medical gentleman, who had had two attacks from which he recovered without an operation. He believed that in both these cases perfect rest gave nature an opportunity to cure the disease by resolution.

Dr. Peabody thought that one such case as that related by Dr. Ball, where the boy died of rupture of the abscess, was sufficient to counteract the force of a hundred such cases as had been brought forward by Dr. Shrady.

Dr. Shrady merely referred to these cases as exceptional ones. There was, however, never any argument against the evacuation of pus, wherever it might be. He believed that the introduction of the aspirating needle could always settle the existence of an abscess of any size.

Dr. Ball said the question arose whether or not it was proper, in cases of perityphlitis, to thrust in a needle within forty-eight or seventy-two hours.

Dr. Peabody thought it was not, and yet he thought it would not do any harm.

Dr. Bull said that if the disease was ushered in with acute symptoms, and the patient was evidently going to the bad, it would be undesirable to delay the insertion of the needle. He thought it was not desirable to insert the needle if there were no local symptoms whatever. The operation itself was harmless, and with the application of cocaine was not painful.

The point which he wished to make was, that the general symptoms were not to be looked upon, and that the allowance of time, either of ten days or forty-eight hours, should be left entirely out of the question. Given a person with sufficient fever, with local signs which point to the existence of an exudation into the iliac fossa, the rule should be to explore with the needle at once, and he thought he should agree with Dr. Peabody, that in a case in which the pain was severe, accompanied with fever, and the attack a sharp one, make an incision, even if the needle found no pus whatever. He believed that by this somewhat aggressive kind of surgery more recoveries would be secured than by avoiding the operation.

Dr. Kinnicutt said that he only meant to be understood as saying that he thought the operation should not be delayed beyond ten days. He thought it frequently was indicated, and he certainly would not object to its being performed much earlier. He believed that frequently suppuration occurred very early.

Dr. G. L. Peabody presented a

GALL-STONE

passed per anum by a woman thirty-two years of age. It measured a little more than two by one inches. She had a good deal of pain in the region of the liver, and it was thought that she had colic; but she was not relieved by the medicines usually administered in such cases. She insisted that there was a stone inside of her, as she could feel it move about. The specimen was presented to him by the eminent dermatologist, Dr. George T. Jackson.

Dr. Ball referred to a case in which a gall-stone as large as an average sized potato produced fatal intestinal obstruction.

Dr. W. T. Bull presented photographs which illustrated a plastic operation for the relief of

DEFORMITY OF THE NOSE.

The Society then adjourned.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Stated Meeting, January 28, 1886.

Alexander S. Hunter, M.D., Chairman.

Dr. Malcolm McLean presented the sloughed portion of intestine in a case of

INTUSSUSCEPTION,

which occurred in a boy five years of age, who, when he first saw him, was suffering from all the ordinary symptoms of acute dysentery. After a few hours, on account of extreme tenesmus and some evidence of shock, he concluded that it was a case of intussusception. Began treatment, but did not succeed in reducing it. Dr. Rudisch was called in consultation, who agreed with regard to the diagnosis and treatment, but recommended that the abdomen be opened, to which Dr. McLean objected, on account of the general condition of the patient, and excessive tympanites, etc. The case went on for ten days with complete obstruction, and with continuation of bloody discharges from the anus, and on the eleventh day a small fecal movement occurred, containing a large piece of intestine. The patient since that time has been doing well, although he had had what appeared to be an attack of peritonitis. The interesting clinical features of the case were—complete obstruction for this period of time, with no vomiting whatever. The treatment adopted was the use of large injections of flaxseed tea, the child being inverted and the abdomen kneaded, and afterward inflation. He was able to inject twenty-one ounces of the tea, which was evidence that the obstruction was high up.

In answer to questions Dr. McLean said that he did not use carbonic acid gas, as recommended by Dr. Forest, because he did not think it had any special preference over common air; also, that there was a marked tumor on the left side; and that he did not anæsthetize the child preparatory to injecting the warm flaxseed tea.

Dr. J. H. Ripley thought simple water was as likely to succeed in reducing an intussusception as any effervescing fluid, although a number of cases had been reported of success in the use of the latter. He thought that the administration of an anæsthetic aided wonderfully the use of water.

With regard to abdominal section, he thought that the operation, in most cases, had been performed on the adult.

Dr. H. Griswold said that Dr. Sands operated in one case for him, and the child died of shock at the end of about two hours.

Dr. A. Jacobi said there were two or three cases on record in which laparotomy had proved successful; the number, however, was very small. The only baby on whom he had operated was a child eight weeks old, an unusually young subject. The operation could be completed, but the baby died a few hours afterward.

Dr. J. Lewis Smith then read a paper on

THE TREATMENT OF ACUTE INFANTILE BRONCHITIS.

The subject was considered under two heads: (1) mild, and (2) severe bronchitis. He believed that simple bronchitis could be aborted, or rendered milder, by an emetic employed when the first symptoms appeared. For this purpose ipecac was probably the best. Measures designed to abort the disease, however, were not usually indicated when the patients were first seen; to be employed with success they must be adopted very early.

The treatment for mild, uncomplicated, primary bronchitis was very simple. A favorite mixture of the late Dr. Jackson, of Boston, consisted of equal parts of almond oil, syrup of squills, simple syrup, and mucilage of gum arabic. Of the mixtures in the dispensatory the mistura glycyrrhizæ composita was the best. The compound syrup of ipecac of the French Pharmacopœia was a most elegant mixture.

When the temperature was 102° F., and above, and the respiration correspondingly accelerated, he had been accustomed to use a mixture consisting of sweet spirits of nitre, syrup of ipecac, and syrup of balsam of tolu.

Severe bronchitis.—When the inflammation involved the smaller bronchial tubes localized atelectasis was liable to occur, and also catarrhal pneumonia, which was one of the most dangerous diseases of infancy.

The indications for treatment in a severe case of bronchitis were to promote expectoration, to diminish inflammation, to strengthen the action of the heart, and prevent exhaustion.

In reference to cough there was safety in it, and he seldom added opium to any of his prescriptions which were designed to relieve cough. Although children did not expectorate, the bronchial tubes were as effectually emptied when the sputum was swallowed. To facilitate expectoration two remedies had been used largely, namely, carbonate and muriate of ammonia; the latter was preferred in most cases, except in the advanced stages, when the former might be advantageous as a stimulant.

A favorite formula for the use of muriate of ammonia with him had been muriate of ammonia, one drachm; balsam of tolu, two ounces. When there was great dyspnœa and indications for clearing the bronchial tubes of mucus, this remedy should be administered every half hour. Dr. Smith had not witnessed any marked benefit from the use of senega or squill. To get rid of large quantities of mucus an emetic was sometimes proper.

To sustain the patient and reduce the fever.—He had not noticed any marked reduction of the temperature by the use of quinine, but it seemed to him that it had been useful as a heart tonic administered in small doses. For a child one year of age, half a grain to one grain. Antipyrine might be of service, but care should be exercised in its use. In a vigorous infant, suffering from bronchitis without or with only a very slight amount of pneumonia, it might be used. Digitalis as a heart tonic was one of the best which could be employed. Alcoholic stimulation was necessary in severe cases; two or three drops of whiskey in water, for each year of age after three months, given hourly or every second hour.

External treatment.—Leeching and vesication have been abandoned. Slight irritation of the surface affords relief, and for this purpose he had been accustomed to use a flaxseed poultice, first rubbing the chest with camphorated oil in young children, and using a mixture of mustard and flaxseed, one to sixteen, in older children, enveloping the chest with the poultice and covering it with oil-silk. In those cases in which there was hurried respiration, accompanied by continued moaning, to cover the chest posteriorly and anteriorly with a poultice, and over the whole place an oil-silk jacket would afford marked relief.

In robust children the application of cold to the chest during the acute stage, as recommended by Henoch, of Berlin, might be of more service than poultices. For all infants under six months of age, however, poultices were preferable.

Change in position of the child he regarded as a most important element in the treatment—laying the child first upon one side and then upon the other, and upon the back.

The Chairman invited Dr. A. Jacobi, to open the discussion, who said that whenever Dr. Smith read a paper very little, if anything, remained to be said. There were some points which he would like to impress upon those present who had not seen a great amount of practice, and who would doubtless see more of these cases hereafter. One of the principal points to which allusion had been made, and of which he wished to speak, was the use of *opium* in these cases. We could not do well without opium in many of them, because there was so much irritation; but he would emphasize the necessity of giving as little as possible. If it was to be given at all, give a good-sized dose at night, for the purpose of securing a number of hours of sleep. He would express his conviction that in no small number of cases of capillary bronchitis and acute pneumonia in adults, the patients died in part of their disease, in part of the influence of opium. Certainly opium would suppress expectoration, and without expectoration bronchitis and pneumonia were almost invariably fatal.

There was one great expectorant which Dr. Smith had not mentioned, and that was *water*. Where was the expectoration to come from unless there was fluid in the body? It was all well enough to give muriate of ammonia and expect it to liquefy the expectoration; but the liquefaction could not take place without plenty of water, and the chief danger was that water was not supplied in sufficient quantities to young infants, older children being able to ask for it.

Another important point was the regulation of the temperature and moisture of the atmosphere in the room; this is especially important in all cases of so-called dry bronchitis.

With reference to the use of *digitalis*, he believed that two or three large doses in twenty-four hours were preferable to small doses frequently repeated. A child one year of age would take one grain of digitalis, three times a day, for as many days as would be required, and the effect would be much better than if the remedy was used as it was usually employed.

Another exceedingly valuable expectorant was *camphor*, the effect of which was permanent, and it was more easily taken than carbonate of ammonia. A child one year of age might take one-quarter, one-half, or even one grain of camphor, rubbed up with glycerine as often as every hour or every two hours, and in bad cases of bronchitis or pneumonia where expectoration was wanted he had not seen any expectorant which had served him a better purpose.

Turpentine, also, by inhalation, was an excellent expectorant. Put a tablespoonful or two tablespoonfuls of spirits of turpentine into the kettle of water which is kept in the room to moisten the atmosphere, and the air will be impregnated with the vapor of turpentine, which will greatly benefit the patient.

The Chairman invited Dr. John H. Ripley to continue the discussion, who said that he should take issue with Dr. Smith with regard to aborting bronchitis by the administration of an emetic. The inflammation might be shortened, but he did not think it possible to abort it. That, however, was a matter of experience.

With regard to the temperature, it seemed to him in cases of bronchitis limited to the large air-passages, or

involving only the smaller tubes, that a temperature never occurred sufficient to demand antipyretics. If there was a temperature of 102° F. plus, he should search for some other cause for its explanation than the bronchitis. His experience had been that bronchitis rarely afforded a temperature of 102° F., except during its onset.

As to opiates, Dr. Smith and Dr. Jacobi had condemned their use, and he also wished to condemn their use to any very great extent; but, at the same time, he should always think of giving opium to some extent if the cough was frequent and harassing. He did not think it was necessary for a child to keep coughing to prevent collapse of the lung. It was necessary that the child should take deep inspirations, to be sure, which generally would be sufficient, with the use of a small quantity of opium, and the cough, when modified by opium, was sufficient to keep the bronchial tubes open.

Many years ago he learned a lesson from Dr. Jacobi —not the only one by any means. Jacobi said:

Spank the baby,
Make it cry;
For if you don't,
The baby will die.

With regard to expectorants, he did not agree with Dr. Smith in beginning their use at the outset of the disease. We should wait until the bronchial tubes began to secrete before administering them.

He thought the best prescription at the beginning of an attack of bronchitis was a combination of veratrum viride and the spiritus mindereri. When the case reached the stage of expectoration he agreed with Dr. Smith that one of the best expectorants which could be employed was the muriate of ammonia; and another good mixture to be used with it was the mistura glycyrrhizæ composita of the dispensatory. Also, he did not know of an expectorant of more value than turpentine, particularly if the larynx was involved.

With regard to quinine, he did not use it at all in the treatment of bronchitis. Dr. Ripley then spoke of bronchitis occurring with rachitis, in which cod-liver oil, but better, linseed oil, was of special service. He also spoke of a form of circumscribed capillary bronchitis, and what might be denominated a malarial bronchitis, in which quinine was the remedy *par excellence;* but to be used effectually it must be given in large doses; for a child one year of age, fifteen grains daily.

Dr. Ripley advocated the use of poultices, and employs thick poultices. The object of the poultice was to afford protection from the air and to give moisture and heat, and he therefore used at least a pound of flaxseed meal, which made a thick poultice that would envelop the chest of a child, and would not need changing oftener than every five or six hours.

Dr. John C. Peters was asked to continue the discussion, and said that one remedy, which was the best of all expectorants, and which allayed the cough, had not been mentioned, and that was potash. The form in which he usually prescribed it was the liquor potassæ, one drachm to four ounces of water, and he very frequently used anise-seed water, which of itself was somewhat soothing. All of the alkalies, but more particularly potash, increased the ciliary movement of the bronchial epithelia, the only way in which expectoration was brought forward where it could be reached by cough. Besides, a solution of potash would dissolve mucin, while simple water would not. He had almost abandoned the use of ipecac, except perhaps in small tonic doses. When there was great congestion and dyspnœa the administration of small doses of calomel, sufficiently large, however, to move the bowels, would relieve the heart and lungs, and render *digitalis* more active than it otherwise would be.

With reference to external treatment, he had used flannel chiefly, perhaps covering the chest with cotton. He thought that the frequent changing of poultices exposed the infant too much.

With reference to change of position, he had been in the habit of placing the child on the face, and had found it very beneficial.

He never used quinine as an antipyretic, but thought it beneficial in preventing the migration of leucocytes.

Dr. Joseph E. Winters said that while, perhaps, acute bronchitis could not be aborted, the inflammation certainly could be minimized. During the time when the congestion was limited to the bronchial artery, remedies which reduced the force and frequency of the heart's action would reduce the inflammation, and for this purpose he employed veratrum viride, already mentioned by Dr. Ripley, or aconite; as a reliable article of veratrum viride was somewhat difficult to obtain, he frequently used the latter agent. This expectation, however, was realized only in cases of acute primary bronchitis.

After this his method of treatment was to use derivatives, and then mild cathartics, consisting chiefly of alkaline mixtures.

The second indication was to prevent accumulation of catarrhal secretion, as here occurred all the deaths. For the prevention of the accumulation of this secretion he used stimulating expectorants, and they varied according as to whether the expectoration was thin or viscid. In this condition cough also became remedial. During the catarrhal stage he combined camphor with other agents in a sufficiently concentrated form to excite a cough, which would, in part, be voluntary. Besides, he applied stimulating liniments to the surface of the chest, which would provoke deep inspiration. For this reason he thought that large poultices were dangerous, and that putting a pound of flaxseed, mixed with water, upon the chest of a child one year of age, would materially interfere with respiration. He preferred the oil-silk jacket, or, perhaps, spongiopylin, with cotton batting and oil-silk. The oil-silk was generally sufficient, with the use of a stimulating liniment, applied by putting the hand under the jacket, without exposing the chest of the child at all. He always insisted upon the following order in most of these cases: First, make the external application, then administer the expectorant, which would excite a cough, and then administer an emetic, and do all this at bedtime.

Opium became a dangerous remedy in young children, and he thought chloral did equally as well. When the secretion was watery and excessive, camphorated tincture of opium might diminish cough and secure rest, but it was not often indicated.

As to whether capillary bronchitis existed independently of broncho-pneumonia, he had his doubts, because when capillary bronchitis was found at autopsy it was associated with more or less of broncho-pneumonia.

Dr. H. D. Chapin made special reference to the use of bromide of sodium, which he had used with good results. The use of opium had been pretty well condemned by the speakers by whom he had been preceded; and even in the doses recommended he had seen, it seemed to him, unfortunate results due to its use. In rachitic children he had noticed a more rapid and a more marked narcotic action produced by opium than in otherwise healthy children. In one case he felt quite certain that the brown mixture, regarded as perfectly safe in ordinary cases, nearly caused the death of his patient. For some time, therefore, he had used the bromide of sodium, and although it did not act rapidly, yet by giving it continuously it produced a sedative effect which had seemed to him to be safe and beneficial. He would be more afraid to use chloral than opium.

With reference to cases of mild bronchitis, he thought one of the best remedies was to put the child to bed at the outset, and when this was done the large majority of children would get well without special treatment.

Dr. J. H. Fruitnight spoke of the use of iodide of potassium in the second stage of the disease, especially when the secretion was viscid, administered in doses of one-fourth to two grains, according to the age of the child. He favored the use of oil of turpentine combined

with balsam of fir, and the use of small poultices, containing mustard in the proportion recommended by Dr. Smith.

Dr. Goelet spoke of the administration of medicines to children by means of a medicine-dropping tube, by which one or two drops could be given at a time, and in this manner the entire dose could be administered, thus securing a more uniform effect of the remedy.

Dr. L. Emmet Holt spoke of bronchitis occurring in children suffering from malaria, in which the bronchial affection yielded only to full doses of quinine. He was indebted to Dr. Ripley for first calling attention to these cases.

The amount of spasm of the bronchi which occurs in some of these cases he had looked upon as one of the signs of rachitis, and in the cases in which he had had opportunity to make an autopsy he had rarely failed to find evidences of rachitis. In these cases the amount of the catarrh is very small, and the amount of spasm is very large, and they are rarely benefited very much except by cod-liver oil and general tonic treatment.

At one time he was averse to the use of ipecac in the treatment of bronchitis in children, but a further trial of the remedy had given, in some cases, very much benefit. A very useful agent, according to his experience, was a hot mustard foot-bath. He had used camphorated tincture of opium, but not in large doses. Chloral, administered in small doses, had been beneficial in nearly all cases.

Dr. Winters wished to emphasize the matter of change of position, of which he had omitted to speak previously. It had been his custom to place the child prone, and he regarded change of position as one of the most important measures in the management of infantile bronchitis.

Dr. Jacobi made additional remarks with reference to those cases in which there was more spasm than bronchitis, referred to by Dr. Holt, and in which the ordinary treatment was of but little avail. There were a number of cases in which a diagnosis was very difficult indeed. When either a child or an adult was seen with all the symptoms of bronchitis, when nothing is known of the beginning of such an attack, and the question arose whether the case was one of bronchitis or simple asthma, it turned out in many instances to be asthma, such as was seen in adults. The fact was that asthma occurred very much more frequently in infancy and in children than we had been aware of. Such attacks would come on very suddenly, and were relieved by the administration of a narcotic, just as it was when it occurred in an adult. Thus a good dose of chloral or opium would do all that was temporarily necessary; afterward the treatment began, and it consisted of measures intended to remove the peri-bronchitis, which was almost always present in these cases. Here the iodide of potassium deserved all the credit which it had ever had in the cure of asthma. In such cases it was also well to study the condition of the nose, especially where there was not much known of the history of bronchitis and peri-bronchitis.

With reference to the association of constitutional diseases with bronchitis, syphilis gave rise less to bronchitis than to interstitial pneumonia. Rachitis might enumerate among its first symptoms hypertrophy of the bronchial and tracheal glands. It was not necessary that the cervical glands be enlarged, but those behind the clavicle were swollen. Again, the thymus gland, which normally had disappeared when the child had reached the fifth or sixth year of age, remained large in rachitic children, and in the majority of cases in which chronic bronchial catarrh existed in children under six or eight months of age, and which did not get well under normal treatment, it was probable that in nineteen out of twenty cases dulness on percussion could be elicited behind the manubrium, due to the large thymus and swollen tracheal, bronchial, and mediastinal glands.

Dr. Smith, in closing the discussion, said that it was difficult, of course, to determine positively whether or not bronchitis could be aborted; but he had seen some cases in which he felt quite certain that the disease had been aborted.

With reference to the use of expectorants from the beginning, he had stated in his paper that only in some cases he believed it to be advantageous to begin their use at the outset. As to the use of opium, he recommended that it should not be used in combination with the expectorant, but that occasionally it might be necessary, and when used he had combined it with the bromide of potassium, as he saw no special advantage in the use of bromide of sodium. He had hoped that the use of cold applications to the chest would have been touched upon by some of the speakers.

Dr. Ripley then referred to the use of cold water in the treatment of pulmonary affections in Bellevue Hospital, many years ago, under the direction of Dr. Alonzo Clark, and also Dr. Thomson, but the results were such as made them abandon its use. This referred to the use of cold water in adults.

The Section then went into executive session.

Stated Meeting, February 25, 1886.

Alexander S. Hunter, M.D., Chairman.

Dr. Robert A. Murray read a paper (see p. 267)

ON THE MANAGEMENT OF BREECH PRESENTATIONS.

The discussion was opened by Dr. H. J. Garrigues, who said that the general management of breech presentations was so well understood that he would direct attention to only a few points on which there was still difference of opinion, and on which the experience of the members would be interesting.

It was a mooted point whether or not the forceps should be used in delivering the head. Most authorities reject the forceps under these circumstances. Where the child was dead he had found the use of the forceps advantageous.

The temptation, in a case of breech presentation was, almost always, to do too much. If there was no disproportion between the child and the pelvis the delivery was very easy, and the best thing to do was to let the case take its natural course. But if there is even a slight disproportion between the child and the pelvis, the proper thing to do was to pull down a foot, which placed the case within the control of the accoucheur, who could thereby deliver the child at once and at any desired time.

When the breech has entered the cavity of the pelvis, a fillet should be passed across the groin, and thus the operator was given control of the child. The blunt-hook was altogether too severe an instrument to be used here. Some had advocated the use of the forceps under these circumstances That was largely a matter of experience, and it would be interesting to hear the experience of the members on this point.

Dr. Charles Jewett, of Brooklyn, thought that the profession at large was not sufficiently familiar with the technical methods of the management of breech presentations, and were practitioners more familiar with the management of breech presentations version might be resorted to more frequently than it was, and with much better results than the use of the forceps.

The method of managing the head, which he practised most, was the Smellie-Beak, forking two fingers over the neck, and placing two fingers of the other hand in the canine fossæ. When this fails, he uses the forceps, to the cautious use of which he could see no objection.

With regard to the application of the forceps to the breech, his impression was that it was not in the disrepute which might be inferred from what had been said. On the other hand, he thought that the application of one blade over the sacrum and the ilium, and the other over the posterior surface of the opposite thigh, that which lies anteriorly as the thighs are flexed, had proved a satisfactory method in good hands. He repudiated the application

of the forceps over the trochanters. He had depended mainly on the manual methods of extraction, the most effectual being the fillet, when a foot cannot be brought down. As to the difficulty of passing the fillet, it had occurred to him that the Elliot uterine repositor might be used with advantage for passing the tape with which it was to be drawn into position.

He recommended it as good practice to visit the patients a week or so before expected confinement, make an examination of the abdomen, and, if a breech-presentation was detected, to change it into a cephalic presentation at once. He referred to a recent case in which he changed the presentation three weeks before labor.

Dr. Egbert H. Grandin referred to a paper by Olivier, who recommended application of the forceps in cases of breech presentation in which the legs were completely extended on the ventral surface of the child. He had not seen such a case, but should he encounter one he should be tempted to use the forceps rather than introduce the hand to the fundus in search of a foot.

He also would apply the forceps over the trochanters rather than make traction with either the fillet or the blunt hook.

With regard to examination of patients before labor, he regarded it as something which all should do, and if it was found on abdominal palpation that the breech was presenting, and it was about the end of the eighth month, it would usually be easy to change it to a cephalic presentation

Dr. Malcolm McLean said that the highest rate of mortality for the child in breech cases he had been able to find reported was *two* per cent. A few years ago he took occasion to obtain the personal experience on this point of a large number of eminent obstetricians in this city, and the result was at variance completely with the statistics given in the text-books. One gentleman told him that there was no necessity of losing any children in cases of breech presentation. The late Dr. Elliot taught that one in five children would die in these cases. So far as his own experience went, he had not lost a child, and he had had twenty cases.

If there was danger to the child, as great as represented by the statistics in Dr. Murray's paper, Dr. McLean thought that the presentation should be regarded as an abnormal one and be dealt with accordingly.

But if the mortality was only almost the same as in cephalic cases, why perform cephalic version before confinement? He held that it was unnecessary. If delivery by the breech can be made almost as safe as with cephalic presentation, he regarded the *meddling* as the cause of the death of the child.

His plan of management had been, in every case in which the measurements of the pelvis were apparently good, but the mother was becoming exhausted, to introduce the whole hand into the vagina, measure the pelvis thoroughly, ascertain the exact position and presentation of the child, and in breech presentation bring down a foot, which could almost always be done without difficulty. Any pelvis which will allow the body of the child to come down into it will permit the passage of the hand alongside the child. He regarded the fillet and the forceps operation as troublesome, if not dangerous. He was opposed to the use of the forceps to the breech of the child. The foot gives something with which to make traction, and with which to make traction at the exact time when traction should be made. When the breech of the child is well through the pelvis, *traction should cease*, and the child should be delivered by pressure from above.

As to the delivery of the head, the moment the body of the child is sufficiently delivered to get hold of it, the temptation to pull is so great that up goes the chin and is locked, and then comes the struggle, and the child dies, not of suffocation, but as the result of traction on the spinal cord. The instant the arms are brought down he depends entirely on external pressure over the uterus. If the head locks in the pelvis, it becomes a question whether or not forceps should be used.

Dr. H. J. Boldt favored bringing down a foot, and had not seen the necessity for using the forceps, and in the only case in which he used the fillet, the child was lost.

Dr. J. H. Fruitnight referred to a case in which he applied the forceps over the trochanters, delivered the child safely and without injury to the mother. He published the case about ten years ago, in the *Virginia Medical Monthly*, and it was the first in this country in which this method had been adopted. At the meeting (Northwestern Medical Society) when he first reported this case, Dr. T. H. Burchard related two cases in which forceps were applied to the breech; in one of them by mistake, as it was supposed to be a case of cephalic presentation.

He has discarded the blunt-hook in these cases. He believed that the chin was frequently locked under the pubis by ill-advised traction. He referred to a case in which he found a combination of spina bifida and breech presentation that had given rise to difference of opinion concerning the presentation.

Dr. Garrigues thought that the use of the fillet and the forceps were to be compared, and not the bringing down of a foot and the use of the forceps. When the child is not far enough down to get hold of it with the fingers, but in the cavity of the pelvis, he prefers the fillet to the forceps; if unable to apply the fillet he uses the forceps.

Dr. Fanning referred to a case in which he completed delivery of the head with the forceps, with safety to the child and the mother. He also referred to recorded statistics of nine hundred cases, in which there were fifty of breech presentation, with one death.

Dr. W. E. Forest saw no reason why the forceps should not be applied every time the head was delayed at all in delivery, and was unable to see why it was not safer and speedier than to rely upon pressure from above. As soon as he discovers that he has to deal with a breech presentation, he sends at once for his forceps, and when the body and arms have been delivered and the head is not delivered immediately, he uses the forceps; the long forceps without handles, devised by the Chairman. He was thoroughly against traction on the body of the child, and equally strongly in favor of the use of the forceps for delivering the delayed head.

Dr. Goelet had seen the fillet produce injury, which, if not dangerous, was exceedingly disagreeable.

Dr. J. H. Emerson asked concerning the time when the change of presentation by external manipulation should be effected.

Dr. Jewett thought that in most instances it should be done near the time of labor, and Dr. Grandin said certainly in the eighth month, and he would prefer to make the change earlier.

Dr. F. A. Burrall suggested that exactness, with regard to the management of breech cases, would be promoted if the main diameters of the child's head and the approximate diameters of the mother's pelvis were given.

Dr. Murray, in closing the discussion, said that if the child was well-shaped, and the pelvis not extraordinarily large, there would be difficulty in delivery in breech cases. At the same time he felt that Dr. McLean had accepted his view that where there is delay at the brim, the proper course to pursue is to bring down a foot, and certainly that would give control over the head, which is larger than the breech. If traction is made, it should be coincident with pains, and with it continuous pressure over the uterus, if the woman is under an anæsthetic. He did not believe that pulsation in the cord could cease for more than five minutes and the child survive, and if the attendant cannot extract the head promptly, the forceps can be applied.

With regard to changing the presentation before labor, he regarded the time as immaterial, if it be done before

the membranes have ruptured, and the method should be the bipolar of Braxton Hicks.

With regard to the application of the forceps to the breech at the brim, he regarded it as not advisable, and the proper operation would be to bring a foot down. When the breech is in the cavity, a fillet may be used, but if the breech is between the superior and inferior straits, and one finger can be got into the groin, the fillet is of no use.

With regard to the method of introducing two fingers into the mouth, he did not believe that they did much in way of flexion, and that the real flexion was obtained by upward pressure made upon the occiput.

The Section then adjourned.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 27, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
February 27, 1886.....	5	5	45	2	5	73	4	0
Deaths.								
February 27, 1886.....	0	0	7	2	1	34	4	0

POLYMAZIA.—Individuals having one or more supernumerary breasts are not such rare beings as is generally supposed. In France, Puech collected the records of 77 cases, in 46 of which there was one extra mammary gland, in 26, two, and 2, three. When there is one supernumerary breast it is usually situated below one of the others or in the axilla; when there are two they are most commonly found in the axillæ; and if there are three, the other one is in the neighborhood of the umbilicus. In very rare instances the superfluous gland has been seen on the shoulder, thigh, or back. Men, as well as women, have been found the subjects of this anomaly.—*La Riforma Medica.*

DEODORIZED IODOFORM.—We gave recently the formulæ of Herr Oppler, who makes use of roasted coffee in order to disguise the unpleasant odor of iodoform. A still more simple means is that employed by Brunelli. He mixes one part of finely pulverized camphor with three of iodoform, and claims that in this way the characteristic odor of the latter is completely masked.

AN EXHIBITION OF CEREBRAL TUMORS.—Quite a novel exhibition was one of specimens of cerebral tumors held at a recent meeting of the London Pathological Society. There were twenty exhibitors, and more than fifty specimens were shown. The collection illustrated in a remarkable way the fact that cerebral tumors may occur in any region, and the clinical histories given of many taught only too plainly the lesson that in the great majority of cases the symptoms are diffuse and the lesion cannot be localized. Many of the specimens showed very well the tendency of gliomata, when occurring in the cortex, to remain limited to the gray matter, and their infiltrating tendency when occurring in the white substance.

TREATMENT OF HYSTERIA IN CHILDREN.—As to the direct therapeutic treatment of hysteria in children, Dr. Herz agrees with Henoch, the acknowledged highest authority on children's diseases, that there is no specific remedy for it. Henoch prefers the hydrate of chloral to all other medicines, though he regards morphine as almost equally valuable. The former he prescribes in 0.5 to 1.00 doses (7½ to 15 grains); the latter, both internally and hypodermically, in 0.005 to 0.01 doses ($\frac{1}{12}$ to $\frac{1}{6}$ grain). Inhalations of chloroform, though ordinarily exerting only a transient salutary influence, will be found requisite in the occasional paroxysms involving the laryngeal organs. Arsenic and quinine are highly prized by some practitioners, but they possess likewise no constant value. In view of the so frequently underlying anæmic base, small doses of iron and arsenic, continued systematically for a long period, will invariably be found useful. Warm baths, applied frequently, and lasting fifteen to thirty minutes, fresh air, and nourishing food, are always highly commendable in every case.—*Therapeutic Gazette.*

THE MODE OF ACTION OF ANTIPYRETIC DRUGS.—As a general conclusion to Maragliano's valuable researches, we can advance the theory that antipyretic remedies act by being able to eliminate the two most important pathogenetic causes of fever. In other words, they prevent vascular contraction, and the thus resulting storing up of animal heat, and increase the heat-discharge; besides, they combat successfully the increase of heat-formation by reducing the intensity of the oxidizing processes of the economy.—*Therapeutic Gazette.*

COMPARATIVE ADVANTAGE OF DIFFERENT FORCEPS.—Among the changes which have recently taken place with regard to the forceps, there are two, however, which, I venture to think, require further consideration. The first is with regard to the early period of labor at which instrumental assistance is now advocated by some authorities. The second is with regard to the complicated form of forceps introduced by M. Tarnier, and since variously modified and largely employed by modern obstetricians. For my own part, I can see no reason for instrumental assistance before the os uteri is fully dilated, except in certain cases of complex labor, where immediate delivery may be necessary for the safety of mother or child, and in which it must be unhesitatingly resorted to as soon as the os uteri is sufficiently dilatable. But if obstetric practitioners should ever come to regard it as a safe rule of practice to apply the forceps as soon as the os uteri can be sufficiently expanded to admit its introduction—which in some instances may be done before the occurrence of any true labor pains—it is very probable that the ill results of the indiscriminate and injudicious employment of this practice will outweigh all the possible benefits of its right use. The preference generally given to Tarnier's axis-traction forceps by many British as well as by nearly all French obstetricians, over instruments such as Barnes' original double-curved or my own short forceps, appears to me to be a mistaken one. In operative midwifery, as I have before observed, as in any mechanical problem, it is obvious that there should be a due proportion between the power used and the resistance to be overcome, and that the force employed should be the minimum necessary to accomplish the desired effect. This certainly is not the case in Tarnier's forceps, which I cannot but regard as a needlessly complicated, unwieldy, and, for the purpose for which it was designed, an ill-contrived piece of mechanism. Hence, in my opinion, this instrument is by no means equal to Dr. Barnes' forceps for any cases of difficult labor where the head is detained above the pelvic brim; nor, I will venture to add, to my own short forceps in those still more frequent instances in which the head, having entered the pelvic cavity, assisted delivery may be expedient, as I have found in upward of two hundred and fifty cases in which I have now used this instrument.—*Dr. T. M. Madden.*

THE PHYSICIANS OF GERMANY.—Although the number of physicians in Germany averages 1 to 3,025 inhabitants, their distribution is very uneven. The cities and watering places are especially well supplied. In Bonn there is 1 doctor to 440 inhabitants, in Wiesbaden 1 to 558, in Berlin 1 to 1,063.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 11 NEW YORK, MARCH 13, 1886 Whole No. 801

Original Articles.

A CONTRIBUTION TO THE NATURAL HISTORY OF PULMONARY CONSUMPTION.

EMBRACING THE CAUSATION AND SYMPTOMATIC EVENTS. BASED ON AN ANALYSIS OF FIFTY-NINE CASES OF THE DISEASE.

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THE clinical observations which form the basis of the following analytical study were made during the past summer at the chest-class of the Out-door Department of Bellevue Hospital, and at the Clinic for Diseases of the Chest at the New York Post-graduate Medical School. They were begun June 11th and terminated September 19th; with few exceptions the cases were presented to the Class in Physical Diagnosis at the Post-graduate School during the summer session of 1885. It was intended, at the beginning of the summer, to note also the results of therapeutic measures, but the extreme irregularity of the patients in attending the clinics interfered to such an extent with my observations that I was forced in a great measure to abandon this line of research; hence, I have preserved records only of facts relating to the causes and symptoms. These, with unimportant modifications, are presented to the readers of THE MEDICAL RECORD in the subjoined table, in about the same shape in which they were obtained from the patients themselves in the clinic rooms. In regard to the table, it may be said that the facts which it contains, though presented in a brief form, will serve to elucidate the points of inquiry about as clearly, and perhaps more satisfactorily, than separately and fully detailed histories of each case. In a few instances, however, the subjects of investigation seemed to warrant rather more space than could be allotted them in the table; they will be given their proper places in the text.

Before proceeding with our analysis it would seem appropriate to call attention to the following facts:

1. The observations made were in a few instances the result of one examination, opportunity not being afforded to make subsequent ones; in most cases, however, the patients repeated their visits at irregular intervals and the examinations were gone over a second, third, or even a fourth time. Almost without exception the original replies which they gave to my questions were steadfastly adhered to, repeated examinations yielding essentially the same results.

2. In order to guard against lapses of memory and to facilitate the taking of the histories, all of the subjects for investigation were written down for reference at the dispensaries and each patient questioned on each subject, with occasional exceptions, *seriatim*.

3. The notes were made with as much care and precision as were possible, each patient being allowed ample time to reply to the interrogations proposed to him. Nothing was jotted down at hap-hazard, and no case about which there was reasonable doubt is included in the list. The diagnosis in each case was based on a good rational history of consumption, confirmed by a careful physical examination.

It should also be stated that in addition to the cases contained in the table, reference is occasionally made to others which have come under my observation, and of which incomplete records have been preserved, also to statistics of phthisis at the Bellevue Dispensary for the past two years which I have compiled.

In our study of these cases the numerical method of analysis inaugurated by Louis,[1] and so ably followed by Professor Austin Flint,[2] will be observed throughout.

FACTS PERTAINING TO CAUSATION.—*Age.*—The first object of investigation will be with reference to the possible influence of age in the development of consumption. Besides the 59 cases in the table I have preserved records of the ages of 82 additional cases which have come under my observation at the clinics of Professor Burt at the Post-Graduate School, and of 776 cases[3] taken from the clinic-book of the chest class of the Out-door Department of Bellevue Hospital for the years 1883–84. The entire number (917 cases) will be considered collectively. The ages by decades were as follows:

From 10 to 20 years of age	80
" 20 to 30 " "	382
" 30 to 40 " "	236
" 40 to 50 " "	157
" 50 to 60 " "	42
" 60 to 70 " "	18
" 70 to 80 " "	2

These figures represent the ages of the patients at the date of application for treatment; the time of the first appearance of the symptoms, if given, would, of course, increase the earlier decades to some extent at the expense of the later. It should also be stated that these cases were treated at clinics to which children are not admitted, those under twelve or fourteen years of age being referred to the children's classes. The foregoing numerical data accord very nearly with those obtained by previous observers (Walshe, Pollock, Flint, Theodore Williams, Reginald Thompson). Leaving out the first decade, they would seem to indicate that the liability to consumption increases from the tenth to about the thirtieth year of life, and progressively diminishes thereafter. Exactly such a conclusion has been arrived at by nearly all writers on the subject. With due deference to the opinions of many eminent authors, I would express the belief that this conclusion is based on erroneous premises. It has been the experience of medical officers of life-insurance companies that the *individual* liability to consumption, instead of diminishing, increases after the age of thirty, reaching its maximum at a period beyond the seventieth year of life.[4] The results of an exhaustive investigation into the subject by A. Wuerzberg, Librarian of the Imperial Health-Office at Berlin, amply corroborates this deduction. The methods of study pursued by Wuerzberg are too elaborate to be considered here; but the following extracts from his report will be sufficiently striking: 1. Out of 10,000 persons between the ages of twenty and twenty-five, $30\frac{24}{100}$ die annually of consumption. 2. Out of 10,000 persons between the ages of twenty-five and thirty, $36\frac{78}{100}$ die annually of consumption. 3. The proportion continues to increase, until *out of* 10,000 *persons between the ages of sixty and seventy*, $93\frac{18}{100}$ *die annually of consumption*[5] (the italics are my own).

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[1] Ch. A. Louis: Recherches Anatomico Pathologiques sur la Phthisis. Paris, 1826.

[2] Clinical Studies Relating to Phthisis. Philadelphia, 1875.

[3] The diagnosis in the great majority of these cases was made by such competent auscultators as Drs. S. S. Burt, A. P. Zemansky, W. H. Katzenbach, and Francke H. Bosworth.

[4] *Vide* article by Edgar Holden, M.D., Ph.D., MEDICAL RECORD, July 12, 1884.

[5] American Journal of the Medical Sciences, July, 1884, p. 192.

Facts Having Reference to Causation.

Number.	Sex.	Age.	Social condition.	Occupation.	Nativity.	Heredity or family history.	Opportunities for infection or contagion.	Pregnancy.	Miscarriage.	Alcoholics.	Syphilis.	Rheumatism.	Pneumonia.	Pleurisy.	Other antecedent diseases.	Where living when first symptoms appeared.	Time of commencement.	Floor of house occupied.	Cause assigned by patient.
1	M.	17	....	Jeweller's apprentice.	United States.	None.	None so far as known.	... .	.....	Moderate drinker.	Has never had it.	Has never had.	Has never had.	Has never had.	Diphtheria 2 years ago.	New York City.	Spring, 1885.	Not noted.	Assigns none.
2	M.	33	....	Street-sweep.	Italy.	Unknown.	None so far as known.	.....	.....	Moderate.	Unknown.	Never had.	"	"	None.	" "	A year or two ago.	"	Exposure.
3	M.	27	....	Car-driver.	United States.	Mother died of consumption.	None.	.....	.....	Hard drinker.	Never had.	Has had muscular.	Had it in January, 1885.	"	Gonorrhœa.	" "	January, 1885.	"	Pneumonia.
4	M.	28	....	Blacksmith.	Ireland.	None.	None known.	.....	.....	Occasionally.	"	Never had.	Never had.	"	None.	" "	June, 1882	"	Exposure.
5	M.	25	....	Machinist.	United States.	Unknown.	None.	....	.....	Never drank.	"	"	Had in 1878.	Had it with pneumonia.	"	Nebraska.	1878.	"	Pneumonia.
6	M.	24	....	Compositor.	Newfoundland	Mother died of consumption.	None.	.....	.....	Hard drinker.	"	"	Never had.	Has never had.	"	New York City.	Apr., 1885.	"	Assigns none.
7	M.	37	....	Laborer.	Ireland.	None.	Wife died of consumption.	.....	.....	Moderate.	Has had.	"	Had two years ago.	"	"	" "	Two years ago.	"	Pneumonia.
8	M.	24	....	Hatter.	United States.	None.	None.	.....	.....	"	Never had.	"	Never had.	"	"	" "	Mar., 1885	"	Assigns none.
9	M.	36	....	Factory employee.	Ireland.	None.	None.	.....	.....	"	Has had.	"	"	"	"	" "	July, 1883.	"	Bad air.
10	F.	18	S.	None.	United States.	Mother died of consumption.	None for six years.	Never pregnant.	.....	Never drank alcoholics.	Never had.	"	"	"	"	" "	Spring.	"	Heredity.
11	M.	29	....	Express-driver	" "	None.	None.	.....	.....	Hard drinker.	Has had.	"	"	"	"	" "	Two years ago.	"	Assigns none.
12	M.	31	....	Dyer.	Wales.	Mother has consumption.	Lives with mother.	....	.....	Moderate.	Never had.	"	"	Had eight yrs. ago and once since.	"	" "	Seven yrs. ago.	"	Occupation.
13	M.	20	....	Plumber.	United States.	None.	None.	....	.....	Unknown.	"	"	"	Has never had.	"	" "	December, 1884.	"	Assigns none.
14	F.	34	M.	Housekeeper.	Ireland.	None.	None.	Has five children.	Not noted.	Never drank.	"	Muscular rheumatism.	"	"	"	" "	Several years ago.	"	Hard work.
15	M.	47	....	Laborer.	"	Unknown.	None.	.....	.....	Moderate.	"	Articular, several times.	"	"	H'morrhoids	Greenpoint, L. I.	Spring, 1883.	"	Assigns none.
16	M.	21	....	Boilermaker.	United States.	None.	None.	.....	.....	"	"	Never had.	"	"	None.	New York City.	June, ?	"	"
17	F.	42	M.	Sewing.	" "	Mother died of consumption.	None.	Has five children.	Never had.	Hard drinker.	"	Muscular.	"	"	Dyspepsia.	" "	Two years ago.	"	Hard work and anxiety.
18	M.	28	....	Carpenter.	" "	None.	None.	....	....	Drinks no alcoholics.	"	Articular, 8 or 9 years ago.	"	"	None.	Pennsylvania.	Seven yrs. ago.	"	Assigns none.
19	F.	36	M.	Housekeeper.	Ireland.	Father died of and sister has consumption.	Lives in house with sister.	One child four years old.	Never had.	Doesn't drink.	Unknown.	Never had.	"	"	"	New York City.	June, 1885	"	Bad air.
20	M.	21	. ..	Truck-driver.	United States.	None.	None.	.....	....	Not noted.	"	"	Probably had.	Has had it.	"	" "	Jan., 1885.	"	Pneumonia.
21	M.	34	....	Laborer.	Ireland.	Mother died of consumption.	None so far as known.	.....	.....	Drinks moderately.	Has never had.	Muscular.	Has never had.	Has never had.	Severe dyspepsia.	Chicago.	Mar., 1885	"	Heredity.
22	F.	23	S.	None.	"	None.	"	Never pregnant.	.....	" "	"	Has never had.	"	"	None.	New York City.	May, 1885.	"	Staying indoors too much
23	M.	30	....	Laborer.	"	Suspicious. Father died of lung disease.	"	.....	....	" "	"	"	Pneumonia three years ago.	"	"	Philadelphia.	Oct., 1882.	"	Pneumonia.
24	M.	33	....	Blacksmith.	United States.	Brother has consumption.	Lives with brother.	.....	.....	" "	Has had it.	Muscular.	Never had.	"	"	New York City.	Slight cough a month or two. Hemorrhage last week.	"	Occupation.
25	M.	26	....	Painter.	" "	Both parents died of consumption.	None for several years.	....	.....	Doesn't drink.	Never had.	Has never had.	"	"	Gonorrhœa.	" "	Mar., 1885	"	Heredity.
26	M.	29	....	Laborer.	Ireland.	None.	None known.	.....	.....	Drinks occasionally.	"	"	"	"	None.	" "	Jan., 1885.	"	None given.
27	F.	44	M.	Housewife.	"	None.	"	Has had several children.	One miscarriage.	Hard drinker.	Contracted from husband.	"	"	"	Dyspepsia.	" "	Three yrs. ago.	"	"
28	M.	29	....	Hod-carrier.	"	None.	"	.....	.....	Not noted.	Never had.	"	"	"	Malarial fever.	" "	Apr., 1885.	"	"
29	F.	40	M.	Housewife.	England.	None.	"	Has had six children.	One last year	Never drank.	"	"	"	"	Malarial fever.	" "	Aug., 1884	"	Bad treatment, hard work, and miscarriage.

30	F.	48	M.	Housewife.	United States.	Mother died of consumption.	None known.	Never pregnant.	.....	Never drank.	Never had.	Muscular.	Never had.	Has never had.	None.	New York City.	Three yrs. ago.	Not noted.	Change of life.
31	M.	21	....	Printer.	" "	None.	"	.....	.....	Drinks moderately.	"	Never had.	Has had.	"	"	" "	Aug., 1884	"	Assigns none.
32	M.	44	....	Fishmonger.	" "	Suspicious. Mother died of "asthma."	"	.....	.....	Hard drinker.	Has had it.	"	Never had.	"	"	" "	Sep., 1884	"	Exposure.
33	M.	26	....	Truck-driver.	" "	None.	"	.....	.....	Not noted.	Never had.	"	"	"	"	" "	July, 1884.	"	Assigns none.
34	M.	19	....	Carpenter.	" "	Both parents died of consumption	Nursed moth'r	.....	....	Doesn't drink.	"	"	"	"	Tape-worm.	" "	Spring, 1885.	"	Heredity.
35	M.	21	.. .	Brass-finisher.	" "	Suspicious. Father died of "chronic bronchitis."	None known.	.....	....	Drinks moderately.	Had it three years ago.	"	"	Had it three years ago.	None.	" "	Three or four mos. ago.	"	Pleurisy and syphilis.
36	M.	37	....	Machinist.	" "	Unknown.	"	.....	.....	Doesn't drink.	Never had.	Articular, ten years ago.	Not noted.	Has it now.	Heart disease.	" "	Three or four mos. ago.	"	Hard luck.
37	F.	30	M.	Housewife.	" "	Mother and aunt died of consumption.	Nursed aunt.	Never pregnant.	.....	"	"	Never had.	Never had.	Never had.	Colliquative diarrhœa.	" "	A year and a half or two years.	"	Thinks she got it from aunt.
38	F.	43	M.	Keeps house.	" "	Sister died of consumption.	Living with sister when she died.	Has had six children.	Three — last one two years ago.	"	"	Several attacks of articular.	"	"	None.	" "	July, 1885.	First.	Exposure.
39	F.	45	M.	"	Ireland.	Mother and son died of consumption.	Nursed son.	Has had nine children.	Two.	"	Suspicious.	Muscular.	"	"	"	" "	A month ago.	"	Thinks it came from "bad cold."
40	M.	65	....	Fireman.	"	Suspicious. Father died of "pleurisy."	None.	.....	.....	Drinks moderately.	Never had.	"	Has had.	"	Chagres fever.	" "	Christmas, 1881.	"	Pneumonia.
41	M.	27	....	Printer.	United States.	Father died of consumption.	None so far as known.	.....	... .	Drinks occasionally.	Has never had.	Had articular 14 years ago.	Has never had.	"	None.	Brooklyn, N. Y.	Dec., 1884.	Second.	Exposure.
42	F.	24	M.	Housewife.	" "	None.	"	Has had three children.	Never had.	Never drinks.	"	Never had.	"	"	Prolapsus uteri.	New York City.	Mar., 1885	First.	Hard work.
43	M.	30	....	Truck-driver.	Germany.	None.	"	... .	.....	Moderate.	"	Muscular.	Not noted.	Not noted.	Tape-worm.	" "	Slight c'gh more than a year.	"	Exposure.
44	F.	50	M.	Servant.	Ireland.	Unknown.	"	Has had five children.	Had five times.	Occasionally.	"	"	Never had.	Never had.	None.	" "	Nine years ago.	Moves about.	Hard work.
45	M.	44	....	Coachman.	"	Broth'r died of consumption.	None in many years.	.....	.....	Moderate.	"	Never had.	Had it in December, 1884	Had it with pneumonia.	Malarial fever.	" "	Dec., 1884.	First.	Pneumonia and pleurisy, exposure.
46	M.	30	....	Laborer.	Austria.	None.	None so far as known.	....	.....	"	"	Articular, nine years ago.	Never had.	Had last year.	Habitual constipation	" "	Aug., 1884.	Fourth.	Pleurisy, exposure.
47	M.	24	....	Cigarmaker.	United States.	Mother has consumption.	Lives in house with mother	.....	.....	Doesn't drink.	"	Never had.	"	Never had.	Has had tape-worm.	Unknown.	Two years ago.	Second.	Close confinement.
48	F.	16	S.	Chambermaid.	" "	Mother died of hasty consumption.	Lived with mother.	Never pregnant.	.....	"	"	"	"	"	"Uterine disorder."	White Plains, N. Y.	Jan., 1885.	"	Bad cold.
49	M.	40	....	Printer.	New Brunswick.	None.	None known.	.....	.....	Hard drinker.	Has had it.	"	Has had it.	"	Nasal catarrh.	New York City.	Feb., 1884.	First.	Pneumonia.
50	F.	48	M.	Housewife.	Germany.	Broth'r died of consumption.	"	Never pregnant.	.....	Moderate.	Unknown.	Muscular.	Never had.	"	Frequent cold.	" "	Dec., 1884	Third.	Change of life.
51	F.	42	....	Professional equestrienne	Austria.	Sister died of consumption.	"	Has had one child.	Never had.	"	Suspicious.	Never had.	Has had.	Has had.	None.	" "	Apr., 1884.	First.	"
52	M.	18	....	Apprentice.	United States.	Uncle died of consumption.	"	.....	.....	"	Unknown.	Muscular.	Never had.	Never had.	Gonorrhœa.	" "	Jan., 1885.	Fourth.	Assigns none.
53	M.	65	....	Keeps apple-stand.	Ireland.	None.	"	.....	.....	"	Suspicious.	"	"	"	None.	" "	Seven or eight yrs. ago.	First.	Old age.
54	F.	32	M.	Housewife.	United States.	Mother died of consumption, brother and sister have it.	Is with sister a great deal.	Has had three children.	One, five months ago.	Hard drinker.	Has never had.	Never had.	"	"	"	" "	Feb., 1885.	Top.	None assigned
55	F.	57	M.	Sewing.	Ireland.	None.	None known.	Never pregnant.	.....	Moderate.	Unknown.	"	"	"	"	" "	July, 1885.	"	Occupation.
56	M.	48	....	Weaver.	Germany.	Father died of consumption.	"	.....	.....	"	Never had.	"	"	"	Hæmatemesis.	Germany.	Ten years ago.	Second.	Assigns none.
57	F.	37	M.	Storekeeper.	Ireland.	None.	"	Has had five children.	Never had.	Never drinks.	Suspicious.	"	"	"	Hydrothorax.	New York City.	Jan., 1885.	First.	Domestic troubles.
58	M.	45	..	Baker.	United States.	Two brothers died of consumption.	Nursed wife who died of consumption	.....	.....	Hard drinker.	Had it twenty years ago.	"	"	Had 12 years ago.	None.	" "	Feb., 1884.	Second.	None given.
59	M.	25	....	Laborer.	England.	Father died of consumption.	None known.	.....	.....	Moderate.	Has had it.	"	"	Never had.	Enteric fever	Hæmoptysis in Malta.	Mar., 1885.	Not noted.	Heredity and exposure.

Facts Having Reference to Symptomatology.

Number.	Initiatory symptom or event.	Cough.	Expectoration.	Dyspnœa.	Hæmoptysis.	Pallor.	Emaciation.	Pain.	Sternal or tibial tenderness.	Night-sweats.	Appetite.	Digestion.	Condition of tongue.	Appetite with regard to fats.	Bulbous fingers and incurvated nails.	Œdema of feet and ankles.	Mental condition.	Menstruation.	Laryngitis and pharyngitis.	Pulse.	Respiration.	Temperature.	Complications.	Condition of lungs.
1	Dry cough.	Has cough.	Slight.	Very little.	One attack.	Marked.	Some.	None.	None.	Frequent.	Good.	Good.	Coated.	Eats with relish.	Neither.	None.	Buoyant.	.....	Neither.	90	24	100½	None.	Consolidation upper part of left.
2	Cough.	"	Variable.	Extreme.	Often.	"	Extreme.	"	"	Severe.	Bad.	Very poor.	"	Never liked.	"	Slight	Hopeless.	.....	Laryngitis.	120	30	99	Extreme muscular debility.	Cavities in both.
3	Pneumonic attack.	"	Profuse.	Considerable.	Frequent.	None.	A little.	A little.	"	Has often	Poor.	Good.	"	Doesn't like.	Slight clubbing	Some.	Depressed	.....	Neither.	76	20	99⅗	Facial neuralgia and toothache.	Fibrous phthisis; consolidation and bronchiectasis left.
4	Dry cough.	"	Considerable.	Considerable.	Yes.	Not much.	Marked.	Slight.	"	"	Good.	Fair.	"	Relishes.	Neither.	None.	Cheerful.	....	"	68	20	98⅖	None.	Cavities left; catarrh apex right.
5	Pneumonic attack.	"	Yellow and abundant.	Has on exertion.	"	None.	Some.	A little.	A little.	"	"	Occasional diarrhœa.	"	Can't eat.	"	"	Depressed	.....	"	100	25	98	"	Cavity right apex.
6	Dry cough.	"	Abundant.	Great.	"	Well marked.	A little.	None.	None.	"	Poor.	Costive.	"	Likes.	Both.	"	"	.....	"	110	22	103	"	Acute phthisis; consolidation and cavities left.
7	Attack of pneumonia.	"	Heavy.	Has more or less.	Has never had.	Well marked.	Very little.	Some.	Not noted.	Very profuse.	Bad.	Constipated.	"	"	Neither.	"	"	.....	Both.	92	22	99⅗	"	Catarrh right lung.
8	Dry cough.	"	Very slight.	A little.	Yes.	Well marked.	Some.	None.	None.	None.	Good.	Good.	"	"	"	"	Cheerful.	.....	Pharyngitis.	120	24	102	"	Catarrh both apices.
9	Cough.	"	Profuse.	Some.	Two attacks.	Well marked.	"	"	"	Very profuse.	"	Fair.	Not noted.	"	Some incurvation.	"	Depressed	.....	Both.	100	36	100	Abdominal neuralgia.	Consolidation and catarrh in both.
10	Hæmoptysis and cough.	"	"	Great.	Almost every day.	Extreme	Marked.	"	"	Yes.	Bad.	Bad.	Coated.	Can eat.	Neither.	"	Cheerful.	Stopped entirely.	Neither	120	28	103	None.	Consolidation right; catarrh both; acute phthisis.
11	Hæmoptysis.	"	Considerable.	Some.	Frequent.	Marked.	Some.	Fugitive	"	None.	Fair.	Diarrhœa.	"	Likes.	Both slightly.	Some.	Buoyant.	.....	Both.	120	28	100	"	Consolidation right.
12	Hæmoptysis.	"	Not noted.	"	Occasionally.	"	"	Slight.	"	Never had.	Good.	Occasional diarrhœa.	Not observed.	Dislikes.	Neither.	None.	"	.....	Has had "sore throat."	134	40	High, not taken.	Old pleurisy.	Cavity left.
13	Cough.	"	None.	None.	Never had	"	"	Some.	"	Yes.	"	Poor.	Coated.	"	Both.	"	Low-spirited.	.....	Neither.	116	23	100	None.	Consolidation left.
14	Vertigo; sick stomach.	Says she never had.	A little occasionally.	Some.	"	"	Marked.	"	"	"	Bad.	Bad.	Not noted.	"	Neither.	Some.	Low-spirited.	Scanty.	"	88	21	Not taken.	"	Consolidation right.
15	Cough.	Has cough.	Not noted.	Considerable.	Yes.	"	"	None.	"	Has had.	"	Vomits often.	Coated.	Can't eat.	"	None.	Hopeful.	.....	"	102	22	99⅗	Hemorrhoids; necrosis of 6th left rib.	Consolidation and cavity left.
16	"	"	Scanty.	Not noted.	Never had	Some.	A little.	Some.	"	Yes.	Good.	Costive.	"	"	"	"	Quite cheerful.	.....	"	92	22	99	None.	Catarrh left apex.
17	Pain in side.	"	Considerable.	Some.	Two attacks.	Slight.	Some.	"	"	"	Bad.	Frequent vomiting.	"	"	"	Not noted.	Depressed	Ceased.	Pharyngitis.	96	24	100	Indigestion.	Catarrh both.
18	Cough.	"	Variable.	"	Has had.	Some.	None.	None.	"	Has had.	"	Fair.	"	"	Slight clubbing	Not noted.	"	. .....	Pharyngitis.	120	30	102½	Lumbago.	Catarrh left.
19	Intermittent fever.	"	Slight.	"	Never had	"	Some.	"	"	Yes.	"	Vomiting spells.	"	"	Neither.	None.	"	Not noted.	Neither.	112	22	Not taken.	None.	" "
20	Attack of pneumonia.	"	Profuse.	"	Occasionally.	Marked.	"	"	"	"	"	Variable.	"	Not noted.	Both.	"	Cheerful.	.....	"	Not noted.	Not noted.	98⅘	Chronic pleuritis.	Catarrh left apex; thickening of pleura.
21	Cough.	Yes.	Scanty.	Yes.	Yes.	"	Yes.	"	"	"	Poor.	Bad.	"	Doesn't like.	Neither.	"	Depressed	.....	Laryngitis.	132	23	102	None.	Consolidation both apices.
22	"	"	Profuse in morning.	"	Never had	Some pallor.	"	"	"	"	"	Very bad.	"	Can't eat.	"	"	Hopeful.	Missed last period.	Neither.	134	36	101	"	Consolidation right apex.
23	Pneumonia.	"	Variable.	"	Yes.	Marked.	"	Great.	"	Has had.	Good.	Costive.	"	Doesn't like.	Slight clubbing of fingers.	"	Cheerful.	.....	"	136	28	101	"	Consolidation left lung, cavities.
24	Patient thinks hæmoptysis.	"	Bloody.	None.	"	None.	None.	"	"	Yes.	Poor.	Bad.	"	Not noted.	Neither.	"	Low-spirited.	.....	"	112	24	101⅗	"	Catarrh left.
25	Dry cough.	"	Slight.	Yes.	"	Yes.	Very much	Used to have.	Not noted.	"	Fair.	Good.	"	Relishes.	Both a little.	"	Buoyant.	....	"	104	38	100	"	Catarrh left apex; cavity right lung.
26	Dry cough and fever.	"	Considerable.	Slight.	Never had	"	A little.	Wandering pains.	None.	"	"	"	Slightly coated.	Can eat.	Neither.	"	Indifferent	.....	"	120	30	101⅕	"	Cavity left lung.
27	Cough.	"	Profuse; yellow.	Yes.	Has often.	"	Yes.	None.	"	"	Pretty good.	Vomits often.	Coated.	Can't eat.	Not noted.	"	Cheerful.	Diminished; irregular	"	138	34	100	Chronic dyspepsia.	Consolidation and cavities left lung.

28	Dry cough.	Yes.	Not abundant.	Always a little.	Never had	None.	Yes.	Slight.	None.	Yes.	Poor.	Bad.	Slightly coated.	Can't eat.	Neither.	None.	Depressed	.....	Laryngitis.	114	30	100	None.	Catarrh right apex
29	"	"	Variable.	None.	Three attacks.	Marked.	Extreme.	None.	"	"	None.	"	Coated.	Doesn't like.	Both.	"	"	Stopped some months.	Neither.	160	32	Not taken.	Intermittent fever (?).	Consolidation upper part of right lung; catarrh left lung.
30	"	"	Profuse; offensive.	Yes.	Yes.	Yes.	Yes.	Pain at ensiform cartilage	"	Occasionally.	Fair.	Good.	Not noted.	Likes.	Neither.	Has had.	Variable.	.....	"	82	21	Not taken.	None.	Consolidation right apex.
31	"	"	Profuse.	"	Several attacks.	"	"	None.	"	Yes.	"	Fair.	Slightly coated.	Can't eat.	Slight incurvation of nails.	None.	"	.....	"	104	19	100	"	Consolidation right apex.
32	Cough.	"	"	"	Yes.	"	"	"	Slight	Has had.	Poor.	Costive.	Coated.	Likes.	Neither.	"	Buoyant.	.....	Says he used to have laryngitis.	104	40	97	None unless tertiary syphilis.	Cavity right lung.
33	"	"	"	"	"	"	"	"	None.	Yes.	"	Not noted.	"	Dislikes.	"	"	Depressed	.....	Neither.	116	20	Not taken.	None.	Catarrh left; consolidation right apex.
34	Cough and hæmoptysis.	Very slight.	Frothy.	A little.	"	"	A little.	"	"	"	"	Good.	Slightly coated.	"	"	"	Very uneasy.	.....	"	108	22	100⅘	"	Catarrh right apex.
35	Hæmoptysis.	Yes.	Slight.	Extreme.	"	None.	Yes.	Neuralgic pains	A little.	"	Good.	Fair.	Coated.	Likes.	"	"	Cheerful.	.....	Has occasional "sore throat."	96	26	Not taken.	Syphilis.	Catarrh upper half right lung.
36	Pain about heart.	"	Frothy.	Marked.	"	Yes.	"	Præcordial pain.	None.	"	Poor.	Costive.	"	Can't eat.	"	Yes.	Hopeful.	.....	Neither.	125	34	97	Mitral regurgitation; subacute pleurisy.	Catarrh left apex.
37	Doesn't know.	"	Profuse; offensive.	Great.	Frequently.	"	"	Fugitive pain.	"	"	"	Vomits frequently.	"	Fats induce nausea.	Both.	Slight	Cheerful.	Stopped two months.	"	100	24	Not taken.	Constant diarrhœa.	Consolidation and bronchiectatic cavities left; fibrous phthisis.
38	Bad cold.	"	Green in morning; frothy.	Some.;	Never had it.	"	"	Pain across chest.	"	"	"	Good.	"	Dislikes.	Neither.	None.	Changeable.	Stopped since Dec., 1884.	Throat sore from cough.	124	28	100	None.	Catarrh right apex.
39	Bronchitis; got wet.	"	Scanty.	"	Never had it.	"	Very much	None.	Slight	"	None.	Costive.	"	"	"	"	Depressed	.....	Neither.	130	36	101	"	Catarrh both apices.
40	Pneumonia.	"	Profuse.	Severe and constant.	Often.	None.	Yes.	Occasional pain.	None.	None.	"	Good.	Clear.	Can eat.	Both a little.	Slight	Cheerful.	.....	"	92	36	101	Patient thinks chagres fever.	Retraction and consolidation left lung; fibrous phthisis.
41	Attack of bronchitis.	Has cough.	Variable.	None.	Yes.	"	"	None.	"	Occasionally.	Good.	Good.	"	"	Neither.	None.	Cheerful.	.....	"	112	30	Not taken.	None.	Catarrh and consolidation right apex.
42	Dry cough.	"	Profuse at times.	More or less.	Very often.	Marked.	"	Penetrating pain.	"	Yes.	Poor.	Costive.	Coated.	Can't eat.	"	"	Depressed	Stopped altogether.	"	124	20	Not taken	Prolapsus uteri.	Catarrh and consolidation left; catarrh right apex.
43	Hæmoptysis.	"	Frothy and bloody.	None.	Yes.	Considerable.	Slight.	Fugitive	"	"	Fair.	Occasional diarrhœa.	Clear.	Not noted.	Incurvated nails.	"	Indifferent	.....	"	130	24	Not taken.	Has tapeworm.	Catarrh left apex.
44	Cough.	"	Changeable.	Marked.	"	None.	"	None.	"	Occasionally.	None.	Costive.	Coated.	Can't eat.	Neither.	Slight	Gloomy.	.....	Not noted.	88	30	98⅘	None.	Fibrous phthisis; retraction left lung; catarrh right apex.
45	Pleuro-pneumonia.	"	Profuse; yellow.	Yes.	Never had	Extreme	Marked.	Yes.	"	None.	"	Good.	"	Dislikes.	Both.	Occasional œdema.	Depressed	.....	Laryngitis.	88	40	96	Emphysema.	Consolidation left lung.
46	Pleurisy.	"	Slight greenish.	Extreme.	Had once.	Some.	Lost 15 lbs.	Pain over whole chest.	"	Very often.	Fair.	Costive.	Slightly coated.	Can't eat lately.	Clubbing of fingers.	None.	Lowspirits	.....	Has pharyngitis.	100	32	98	Habitual constipation.	Catarrh right apex.
47	Dry cough.	Has now, but stops occasionally.	Very slight.	None.	Had at first.	"	Yes.	Painful cough.	"	Yes.	Good.	Good.	Clear.	Dislikes.	Slight incurvation of nails.	"	Depressed	.....	Neither.	104	27	98	Tapeworm.	" "
48	Arrested menstruation.	Has cough.	Variable.	Yes.	Yes.	A little.	Slight.	Pain in left side.	"	None.	"	Constipated.	"	"	Slight.	"	"	Stopped three months.	Slight pharyngitis.	136	28	100	Uterine disorder.	Catarrh left lung.
49	Pneumonia.	"	Profuse; yellow.	"	Once or twice.	Some.	Extreme.	None.	"	"	Poor.	Good.	Coated.	Eats with relish.	Incurvated nails.	Yes.	Changeable.	.....	Neither.	100	27	98⅘	Nasal catarrh.	Consolidation; small cavity right lung.
50	Dry cough.	"	Profuse.	Extreme.	Never.	Considerable.	Yes.	Fugitive muscular.	"	Exhausting.	"	"	Slightly coated.	Dislikes.	Slight clubbing	Marked.	Depressed	Stopped five months.	Slight pharyngitis.	100	36	98	None.	Cavity right; consolidation left lung.
51	Pneumonia and pleurisy.	"	"	Very much	Not noted.	Yes.	"	Pain in back.	"	Yes.	Peculiar cravings.	"	Clear.	Likes.	Neither.	Used to swell.	Changeable.	Stopped eleven months.	Both.	104	Not noted.	97	Severe laryngitis.	Catarrh left lung.

FACTS HAVING REFERENCE TO SYMPTOMATOLOGY—*Continued.*

Number.	Initiatory symptom or event.	Cough.	Expectoration.	Dyspnœa.	Hæmoptysis.	Pallor.	Emaciation.	Pain.	Sternal or tibial tenderness.	Night-sweats.	Appetite.	Digestion.	Condition of tongue.	Appetite with regard to fats.	Bulbous finger and nails.	Œdema of feet and ankles.	Mental condition.	Menstruation.	Laryngitis and pharyngitis.	Pulse.	Respiration.	Temperature.	Complications.	Condition of Lungs.
52	Cough.	Has cough.	Considerable.	None.	Not noted.	Yes.	Slight.	Great pain.	None.	Yes.	None.	Costive.	Heavily coated.	Likes.	Neither.	None.	Depressed	.....	Slight pharyngitis.	130	32	102	None.	Consolidation right lung.
53	"	"	Profuse.	Yes.	Often.	"	Some.	Fugitive pains.	"	None.	"	Good.	Coated.	Can't eat.	Incurvated nails.	"	"	.....	Laryngitis.	96	20	98	Pulmonary emphysema.	Cavity upper part of right lung.
54	Hæmoptysis.	"	Frothy.	"	Yes.	None.	Yes.	Great pain.	"	Yes.	Poor.	"	"	Doesn't like.	Neither.	A little.	"	Stopped four months.	Neither.	132	20	98⅘	None.	Catarrh right and left apices.
55	Dry cough.	"	Profuse.	"	Never.	Yes.	Much.	None.	"	Never had.	"	Costive.	Slightly coated.	Dislikes.	Slight incurvation of nails.	None.	Cheerful.	.....	"	130	32	103	"	Consolidation right; catarrh left lung.
56	Pain in side.	"	Not noted.	"	"	"	Extreme.	"	"	Never had.	None.	Variable.	Coated.	Can eat.	Neither.	"	Depressed	.....	"	120	Not noted.	99⅘	"	Fibrous phthisis; retraction and bronchiectasis both.
57	Hæmoptysis.	"	Profuse.	Extreme.	Frequent attacks.	"	Yes.	Yes.	"	Has had.	Poor.	Costive.	"	Can't eat.	Incurvated nails.	"	"	Stopped last month.	"	128	36	99	Hydrothorax.	Catarrh both apices.
58	Hæmoptysis.	"	"	Severe.	Yes.	"	Lost 50 pounds	On right side.	Slight	"	None.	Good at present.	"	"	Both.	Yes.	"	.....	Quinsy.	100	17	100	Tonsilitis.	Consolidation and small cavity right.
59	Dry cough.	"	A little in morning.	None.	"	Considerable.	Lost 22 lbs. since March, 1885.	None.	None.	Yes.	Fair.	Good.	Slightly coated.	Likes.	Neither.	None.	Variable.	.....	Neither.	106	23	100⅘	Tertiary syphilis.	Catarrh right and left apices.

If further evidence be needed to sustain this view of the subject, we may consider the statistics of the New York City Almshouse, an institution the average age of whose inmates is over sixty years. According to the Warden's report for 1878, there died in the Almshouse during that year 229 persons.[1] Out of this number pulmonary diseases entered into the cause of death in 151, or *more than sixty-five per cent.* of the cases. It has been my personal experience that upward of forty per cent. of the deaths in this institution are induced mainly by phthisis. It need hardly be said that such a proportion of pulmonary diseases will not be found in a general hospital to which persons of all ages are admitted.[2] The number of cases over sixty years of age in the foregoing table will not seem so insignificant when it is remembered that but a small proportion of persons of that age are seen at dispensary clinics. For example, in 450 unselected cases of all diseases at the Post-Graduate School, only 34, or about 7.5 per cent. had attained that age.

The apparently contradictory results which have been obtained by different students of this subject may be reconciled by a moment's reflection. I cannot do better than to quote the words of Dr. Holden[3] in this connection: "A far greater number of persons are living between the ages of thirty and forty (or the earlier decades) than between fifty and sixty (or the later decades), and consequently there is a far greater harvest for this most prevalent of diseases." From this study of the subject the following conclusions would seem to be justified: 1. The greatest *aggregate* number of cases of consumption are developed between the ages of twenty and thirty years. 2. The greatest *relative* frequency of the disease is far later in life, probably between the sixtieth and seventieth year.

Sex.—Of the 59 cases in the table, 40 were males, 19 were females; of 82 additional cases which I have noted, 51 were males, 31 were females; of 411 cases treated at the Bellevue Dispensary in 1883, in which the diagnosis of phthisis is stated in the clinic book, the numbers were, males, 250; females, 161; in 1884, of 365 cases treated at same institution, 207 were males, 158 were females. We thus find the males in excess in every instance. In the total 917 cases, we find 548 males and 369 females, the males being 179, or more than nineteen per cent. in advance of the females.[4] These results agree very closely with the statistics of the Royal Infirmary of Edinburgh,[5] where the males were greatly in excess of the females every year from 1833 to 1865, the date of the latest report of the institution. For example, in the years from 1843 to 1846, inclusive, the males were 356, females, 217; in 1865 the males were 126, females, 64.

From these facts, then, it would seem that phthisis is considerably more prevalent among males than among females.

Social condition.—This point of enquiry will be of interest only as regards the female patients. It will be considered under the head of *pregnancy*, etc.

Occupation.—Investigations with respect to occupation were made in all the tabulated, and in 22 additional cases, making a total of 81. In four instances no occupation was given. In the remaining 77 cases, 41 occupations are represented, being distributed as follows: General laborers, 11; housekeepers, 11; drivers, 5; machinists, 3; coachmen, 2; plumbers, 2; boiler-makers, 2; carpenters, 2; painters, 2; printers, 2; apprentices, 2; factory employees, 2; sewing work, 2; clerks, 2, and one each of the following occupations—blacksmith, compositor, hatter, street-sweep, expressman, dyer, hod-carrier, fishmonger, fisherman, brass-finisher, cigar-maker, profes-

[1] Nineteenth Annual Report of Commissioners of Public Charities and Correction of the City of New York, 1879.

[2] Some of the inmates of the almshouse, no doubt, have phthisis when admitted, but this fact does not militate against the argument; the institution is designed especially for *old people*, whether suffering with consumption or not.

[4] I am informed by Mr. McGowan, the assistant apothecary, that sixty-five per cent. of all the patients treated at the Bellevue Dispensary are females.

[5] Reynolds' System of Medicine, vol. ii. Philadelphia, 1880.

sional equestrienne, stand-keeper, store-keeper, weaver, baker, school girl, porter, boatman, tobacconist, sawyer, telegraph operator, stone-cutter, horse-shoer, wheelwright, night watchman, and musician.

The nature of their occupations would indicate that 42 worked in-doors, 27 out-doors, while 8 (as carpenters, painters, etc.) were engaged both in-doors and out-doors. This shows a considerable preponderance of in-door occupations. It must be remembered, however, that among urban populations, especially in cities as large as New York, a considerable majority of the *total number* are engaged at in-door occupations. In verification of this statement I have made an analysis of 78 unselected male patients with various diseases at the Medical Clinic of the Post-graduate School, with reference to this point. The result was as follows: In-door occupations, 43; out-door occupations, 23; both in-door and out-door work, 16. In the phthisical cases it was observed that the patients who were engaged at out-door work were inclined to attach far more causative significance to their occupations than those who worked in-doors. It is questionable whether the machinist at work in his dusty shop is more liable to consumption than the 'longshoreman or the car-driver who must face alike the burning summer suns and the chilling blasts of winter. Out-door exercise under proper counsel is beyond question one of our most valuable adjuncts in the treatment of this disease, but it is equally as certain that undue exposure to the changeable climate of the Atlantic seaboard in this latitude is as cogent a factor directly or indirectly in its production as the confinement of the factory, the machine-shop, or the schoolroom.

Nativity.—Under this head in the table we find the patients distributed as follows: United States, 29; Ireland, 19; Germany, 3; England, 2, and Austria, Wales, Australia, Newfoundland, and New Brunswick each 1. When compared with the total number of patients attending the clinics during the summer, these figures show a slightly greater proportion of Americans suffering with phthisis than of Irish, and a very much smaller proportion of German cases than of either. One of the natives of the United States was a negro, and this I may say is the only case of phthisis in a person of African descent which I have met with among several hundred consumptives.

Heredity, or family history.—Many of our text-books exhibit a proneness to discredit the statements of hospital and dispensary patients with reference to their family histories. It strikes me that an unjust discrimination is made against this class of patients. They are, as a rule, from the lower grades of society, it is true, and perhaps not up to the average of intelligence, but this does not imply a want of filial regard, and I see no reason why their statements with reference to the diseases or causes of death of their parents may not be trusted, especially when they relate to so easily recognized, and usually so prolonged a disease as the one under consideration. Each of the fifty-nine cases in the table was carefully questioned with regard to his father and mother, brothers and sisters, and other near relatives. The following results were obtained, which, I believe, represents the truth as far as the knowledge of the patients enabled them to state it. In 18 cases direct hereditary histories were obtained; either one or both parents had consumption at the time, or had died with it. Several of these also stated that they had lost other relatives with consumption. In 32 cases no direct heredity could be traced, although several of the patients had lost near relatives with the disease. Four of the cases are marked "suspicious," each of them having lost a parent from pulmonary disease (such as "asthma," "pleurisy," etc.). Five others did not know of what disease their parents had died, and were unable to state whether or not there was consumption in the family. Admitting, then, only the cases in which one or both parents were affected with phthisis, we find that 29.91 per cent. gave direct hereditary histories. These results conform quite closely with those of Walshe,[1] who found twenty-six per cent. of hereditary cases. Loomis[2] found eighteen per cent., Reginald Thompson[3] thirty-six per cent., and Theodore Williams[4] forty-eight per cent. of cases in which heredity or family predisposition was traceable. It has been claimed by some authors that in many cases of consumption heredity is merely a coincidence, that its influence is greatly overrated, and that its frequent occurrence among those of the same family is due to the vicious methods of rearing children in certain families.[5] In order to test some of these statements, I interrogated 34 patients with other diseases with reference to their family histories. Of this number 4, or 11.7 per cent., stated that one or the other parent had consumption, or about eighteen per cent. less than patients with a similar history among the consumptive cases. This difference is too great to be resolvable into coincidence or chance—the result strongly corroborates the theory of a congenital predisposition. It is commonly stated that hereditary cases are developed earlier in life, as a rule, than cases without a congenital predisposition. An analysis of the 18 cases with hereditary histories in the table shows the following results by decades: From ten to twenty years of age, 3; from twenty to thirty years of age, 6; from thirty to forty years of age, 5; from forty to fifty years of age, 4.

We find from the table that 9 of the patients were under, and 9 over thirty years of age; the average age of the 18 cases was about 30.60 years. As far as they go, then, these data would not indicate that hereditary cases are developed with greater proportionate frequency in the earlier decades than cases without an inherited tendency.

The results of Dr. Reginald Thompson,[6] who analyzed a large number of cases with reference to this point, are slightly different from these. The appended table will show the result of his analysis:

Cases.	Before thirty.	After thirty.
Non-hereditary, 400	227	173
Hereditary (father), 400	277	123
Hereditary (mother), 400	294	106

Dr. Thompson concludes that the period of greatest vulnerability is about five years earlier in hereditary than in non-hereditary cases. His figures also indicate that phthisis inherited from the mother is developed earlier in life, as a rule, than when the father is at fault. In forming an estimate of these results, however, the fact laid down under the caption *Age* must not be lost sight of, viz., that the total number of persons living under the age of thirty is far greater than the number over this age.

Extending our inquiry into the influence of heredity further, some interesting facts are developed. In the 18 cases with hereditary histories we find that the mother was at fault in 12, the father in 4, and both parents in 2 cases. Ten of these were males (out of a total of 40 males); 8 were females (out of a total of 19 females), or twenty-five per cent. of the former against more than forty-two per cent. of the latter. This would indicate that the mother is much more apt to transmit consumption to her offspring than the father, and that females are more susceptible to hereditary influences than males.

(To be continued.)

THE SOCIETY OF THE RED CRESCENT is an association in Turkey corresponding to the Red Cross Society of the Christian nations of Europe. The organization, which had become nearly extinct, has recently been revived through the efforts of Dr. Mavrogheni Pasha, physician to the Sultan. It is expected that it will soon be in condition again to send ambulances into the field in case of war in the Grecian Peninsula.

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[1] British and Foreign Medico-Chirurgical Review, January, 1849.
[2] Text-book of Practical Medicine. New York, 1884.
[3] London Lancet, June 3, 1882.
[4] Ibid.
[5] J. Hughes Bennett: Reynolds' System of Medicine.
[6] Loc. cit.

INSTANTANEOUS PHOTOGRAPHS OF THE HEART IN MOTION AND OF PERISTALSIS.

By WILLIAM GILMAN THOMPSON, M.D.,

NEW YORK.

In so far as I am aware, the application of instantaneous photography to the study of the movements of the heart and intestines has not heretofore been undertaken. For some time I have sought a satisfactory method to measure the degree of alteration in size and form of the living heart between systole and diastole, both normally and under the influence of drugs. The methods I have attempted were: 1. To adapt various forms of linear measures, discs, etc., to the contour of the heart. 2. To encase the beating heart in a chamber of some plastic material which soon hardens and is impervious to serum. The chamber communicates with an upright graduated glass tube, and if the portion of the chamber not occupied by the heart be filled with serum, the latter will be driven into the tube at each pulsation with a force proportionate to the strength of the systole. The volume of serum displaced represents the change in size of the heart. The evident difficulty is to make the plastic material fit tightly about the great vessels of the heart without compressing them too much. Moreover, this method only measures changes of the heart in bulk, not in form, and is so difficult as to be wholly unsatisfactory. 3. To throw a magnified image of the pulsating heart upon a screen by a modified magic-lantern ("panopticon"). A scale marked upon the screen serves to measure changes in size, or a ground-glass screen can be used, upon which the heart can be drawn. Any one who has studied the living heart is convinced of the difficulty of making drawings of it while in motion which are at all accurate.

A B

FIG. 1.—Rabbit's Heart in Motion. *A*, full diastole; *B*, full systole.

Cardiographic tracings are useful, but their showing is limited. Hesse has published[1] observations upon the changes in form and size of the pulsating heart. He encased it in a plastic material, which moulded itself about the heart, and hardened so as to give a cast of the greatest expansion. The cast could then be bisected, removed, and used itself as a mould to make solid plaster casts. The heart was afterward artificially hardened by chromic acid, and casts were taken of it in its greatest contraction. Obviously, no intermediate stages between full systole and full diastole could be thus obtained, and, moreover, the systole was not a natural one.

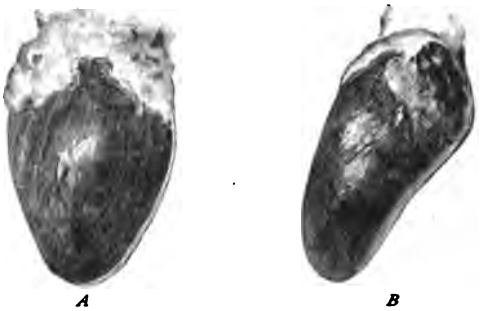
The details of the photographic process with which I have recently experimented cannot be cited here. It is sufficient to say that the photographs were taken indoors in November and December, with direct sunlight illumination, and with an instantaneous drop-shutter giving an exposure of about one-sixtieth of a second. To throw the heart into relief from surrounding tissues which are not distinctly colored, I find it convenient to slip behind it a little piece of celluloid. This affords a good white background, and is easily cleansed of blood, etc., by the common spray of physiological salt solution, which is used to keep the heart moist.

I have taken a large number of instantaneous photographs of the hearts of different etherized animals beating *in situ*, and they demonstrate the following points:

1. For students, and those who have not inclination or facility to study the living heart for themselves, they give a clearer conception of its phenomena than any other method.

2. They are more accurate than drawings or casts.

3. The heart is as nearly in a natural condition, both as to systole and diastole, as is possible with an open chest-wall. Artificial respiration may be easily maintained, and, with assistants, kymographic and other observations may be simultaneously recorded.



A B

FIG. 2.—Pigeon's Heart in Motion. *A*, full diastole; *B*, full systole, produced by application of hot salt and water.

4. A series of photographs may be taken between full systole and full diastole which can be compared and studied at leisure.

5. The photographic method shows more than simple linear measurements, for it gives an accurate periphery as well as diameters, and by perspective gives a fair idea of changes in bulk as well as in form.

6. The movements of the heart as a whole, and the forward and upward movement of the apex, which occurs in many animals, is clearly demonstrable.[2]

7. In addition, the most practical application of the method is the illustration of the changes in the form of the heart produced by drugs. Thus instantaneous photographs of normal systole and diastole are taken, then an injection of digitaline is given and the effect of increased force of the systole is photographed and compared with the normal. The effects of doses of varying strength may be thus compared. The contraction produced by dropping a one per cent. solution of glonoin upon the heart shows exceedingly well in a photograph as contrasted with normal systole. I have also obtained photographs of the transverse section of the ventricles in relaxation, and in the contraction that follows thermic stimuli, even after the heart is cut in two. Any experimental work upon the heart while beating *in situ* may be accurately photographed, and many details become apparent when studying the photographs at leisure, which are otherwise almost impossible to observe, or quite impossible to record at the time of observation.

8. The negatives, placed in a magic-lantern, show admirably upon a very large scale.

A B C D

FIG. 3.—Frog's Heart in Motion. *A*, normal diastole; *B*, normal systole; *C*, increased systole produced by hypodermatic injection of digitaline; *D*, increased systole produced by local application of glonoin, one per cent. ½ (The lower half of each cut is the ventricle, the upper portion is background.)

The series of instantaneous photographs which I have taken of peristaltic movement in the intestines show plainly the effects of progressive degrees of contraction of both longitudinal and circular muscular fibres, and the effects of stimuli, chemical, thermic, mechanical, etc.

[1] Fr. Hesse: Beiträge zur Mechanik der Herzbewegung; Archiv. f. Anat. ü Physiol., S. 328, 1880.

[2] In the cuts the background and the varying shadows cast by the moving heart which make this point clear in the photographs, have been omitted.

Thus in the elaborate researches of Nothnagel, with saline cathartics, he says that certain salts of potassium produce a localized peristaltic wave, while certain salts of sodium produce a wave which travels toward the pylorus. Such facts can be made very real by, for instance, placing a little potassium tartrate upon the surface of a portion of mesentery, and taking a series of photographs of the changes in form and position of the intestine which ensue as soon as the drug is absorbed.

FIG. 4.—Cat's Heart in Motion. Full systole (viewed from the right side).

It is difficult to follow accurately with the eye at one time the changes that take place in more than a single loop of intestine, but the camera records the progressive changes occurring in a number of loops, both above and below the one experimented upon.

The application of instantaneous photography may be further extended to the study of the contractions of the stomach, bladder, and diaphragm, and possibly to the study of the movements of the uterus in pregnant animals, and the lungs in artificial respiration.

The method is so easy and so accurate that I trust it may prove of permanent value in enlarging our knowledge of the action of drugs upon the cardiac and intestinal viscera, and possibly other organs.

CÆSAREAN SECTION ON ACCOUNT OF FIBROID TUMOR OF CERVIX UTERI.

BY J. R. WEIST, M.D.,

RICHMOND, IND.

ON September 6, 1885, I was summoned by Drs. J. B. and J. M. Clark to see Mrs. S——, and deliver her by abdominal section. The following history of the patient was furnished:

"Native of Indiana, aged forty-three; seven years married; never before pregnant; had been for many years delicate and anæmic; menstruation irregular until about one year before conception, then regular until November 4, 1884; no reappearance after this date, the usual signs of pregnancy being present. A fibroid tumor in the posterior wall of the cervix uteri was discovered two years ago; this grew slowly until pregnancy occurred, then grew rapidly. It now fills the entire pelvis. On March 1, 1885, violent pain appeared in the right side of the pelvis, and continued for two months, half a grain of sulphate of morphia being required each twenty-four hours to make it bearable. Pain subsided at the end of two months, and the use of morphia was discontinued. General health rapidly improved, and she continued well until August 7th, when a free discharge of amniotic fluid occurred. This continued to flow moderately each day until the 14th, when the discharge was greater than at first. After this date the amount was small. Labor pains t appeared on the 28th, and continued—except when eted by anodynes—until the present time.

'Dr. Clark was called on August 29th, and found the vis blocked up as described. The os could not be covered. On September 5th a consultation was held, l the patient and her friends informed that natural ivery was impossible; that abdominal section afforded only chance of life to either mother or child. The perate nature of the case was fully explained, and ent to the operation obtained."

saw the patient at 10 o'clock A.M., September 6th. was weak, yet in other respects in pretty fair condi-

I found the entire pelvis filled with a hard and immovable growth, and could not reach the os. It being clearly impossible to do either laparo-elytrotomy or ovaro-hystorectomy, it was decided to make the Cæsarean section at once, all the medical gentlemen present concurring. Before the administration of ether, one drachm fluid extract of ergot was given.

Throughout the operation careful antiseptic precautions were taken. When the uterus was exposed, a very thin-walled cyst was found growing from it, pyriform in shape, about three inches long and two inches in diameter, attached to the peritoneal covering of the uterus, to the right of the middle line, at the middle and upper third of the organ, by a pedicle an inch long and one-fourth of an inch in diameter. A ligature was placed on the pedicle and the cyst removed. Its contents were semifluid and translucent, and greatly resembled thin jelly. At a corresponding point on the left side of the uterus another cyst, as large as an almond, and apparently of similar character to the larger one, was discovered. This was not disturbed. An incision five inches long was rapidly made through the uterine walls, the membranes ruptured, and the child found in the position of a first vertex presentation. The feet were seized, and a living male child, weighing about ten pounds, quickly delivered. Before the delivery of the child the hemorrhage from the divided uterus was much less than expected, but it was very alarming a little later, owing to imperfect contraction. No constriction of the neck of the uterus could be made because of the tumor in its walls. The cut edges were as firmly compressed as possible by the hands of myself and assistant, while hot sponges were placed inside the organ. During the few moments this state of affairs continued, ergotine was administered hypodermatically. Contractions soon came on, the placenta was detached and removed, after which there was but little bleeding. The uterine wound, probably owing to the influence of the tumor, gaped widely when the organ was contracted. The os was sought for from the inside of the uterus, and found as a narrow slit under the pubic arch. The growth was in the posterior wall of the cervix; it filled the pelvis and was immovable. After the cavity of the uterus was cleansed, it was closed by the deep and superficial Sänger suture. It was not found necessary to dissect up the peritoneum, or to remove any section of the deeper structures, as the outer coat slid readily over the muscular layers, allowing it to be readily inverted, and welted into the uterine wound.

In cleansing the abdominal cavity the omentum was found contracted into a hard, nodular mass, adherent to the lower border of the right lobe of the liver. It was evidently in a state of malignant degeneration.

The wound in the abdominal walls was closed with silver sutures. Although for a few moments during the operation the loss of blood was alarming, the total loss was not very great.

At the conclusion of the operation the pulse was one hundred and ten, and of fair strength. Consciousness was quickly regained, and there was no appreciable shock. A small quantity of blood escaped through the vagina. The condition of the patient continued favorable for five hours, then severe pain in the epigastrium appeared; this was followed by vomiting and great thirst; pulse became weak and feeble, the vomiting continuing until near the end. She died twenty-four hours after the operation.

No post-mortem examination was made. The child, now four months old, is healthy.

The probably fatal delay of the operation in this case cannot be charged to the medical gentlemen in attendance. They were fully informed of the nature of the case, and of the necessity of early interference, and it was against their advice the operation was delayed.

Probably the full term of gestation had been reached when the membranes were ruptured—from the date of the last menstruation two hundred and seventy-six days. The first labor pain appeared at the end of two hundred

and ninety-seven days, and the operation was on the three hundred and sixth day, thirty days after the membranes were ruptured, and nine days after the pains of labor began.

A NEW APPARATUS FOR FRACTURE OF THE CLAVICLE.

By JOHN C. MORGAN, M.D.,

PHILADELPHIA, PA.

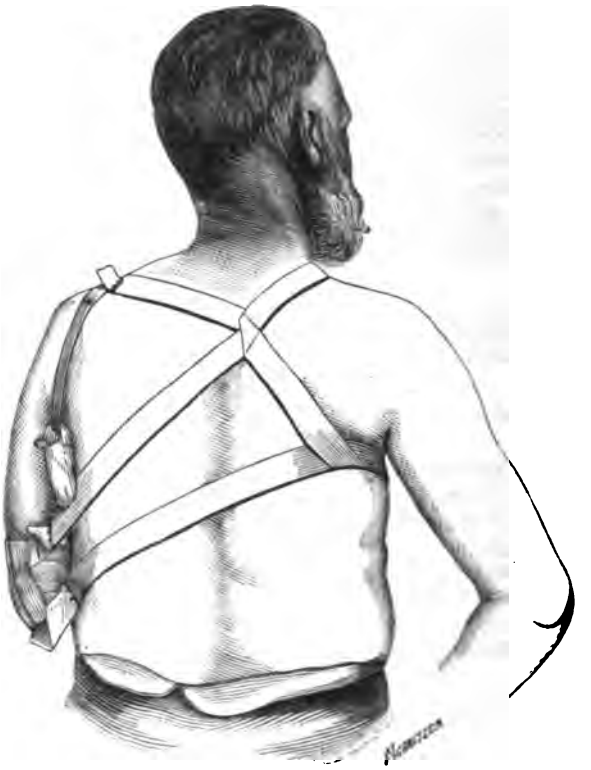
The triple indications in fractures of the clavicle, viz., to hold the injured shoulder upward, outward, and backward, is fulfilled with various degrees of accuracy by the varied apparatus in use by surgeons; but the misfortune is, that with each, the amount of discomfort appears to be nearly proportional to this efficiency.

For instance, Fox's bandage is eminent in both respects, while adhesive plaster straps rival it in both.

Recently, the writer treated a prominent gentleman, with whom both forms of dressing were successively employed and found equally intolerable after a short time. The

plaster caused an eruption like that of croton oil, and the "bandage" soon became transformed into knotty ropes, cut the back, the axilla, and all other parts pressed upon, necessitating the interposition of pads, which constantly required renewal or readjustment. Moreover, during the hot weather, the sling excoriated the inner forearm, and this was only made tolerable by frequent bathing with alcohol. The many bitter complaints and demands for "something wider" than tapes, and less distressing than the now broken-down ring of cotton upon the sound shoulder and axilla, where the principal stress must be borne, led me to devise an apparatus which, while fulfilling perfectly every indication, appears to be entirely new in several important particulars. It is, in brief, a combination of bands of one and one-eighth inch suspender webbing, centring in a scalene triangle at the sound side, which completely takes the place of Fox's ring, and, unlike that, does not draw up under the head of the humerus at all, but lies flat upon the side of the chest by the base of the triangle, the short side applying itself to the scapula, at nearly a right angle with its spine, the third, or longest side, passing over and to the front of the shoulder, the whole enclosing this member somewhat as a horse's bridle accommodates the animal's ears, and quite as comfortably.[1]

The *stress of retention* is evenly balanced between the three angles aforesaid, by five bands of the same webbing, two in front, buckled to the inner and outer corners of the sling (of which and its construction more anon), and three behind, the uppermost going across the back to the top of the injured shoulder, to hold up the axillary pad, the fulcrum of the leverage of extension, and also drawing the shoulder backward, with the intervention of a buckle to regulate its length, ending in two narrow bands, diverging to be inserted into smaller buckles at the upper corners of the pad. The remaining two of the three back bands pass to the posterior end of the sling—*i.e.*, to the elbow, the upper and lower portions respectively—and are there buckled. The lower may seem superfluous, but it is the only tractor upon the posterior inferior *angle;* hence, it is necessary to a perfect *balance of force* in the whole triangle, whereby the latter is maintained in proper bearing position as the *counter-extending* agency, and at the same time kept comfortably applied, without slipping upward. Finally,



the *sling* is made of the same webbing in open work, consisting of equidistant combined longitudinal and transverse strips. (The latter may, with suitable fitting, be semi-elastic.) Two non-elastic longitudinal ones pass, each in one piece, from the wrist back around the lower end of the humerus, returning to the wrist, one at the upper and one at the lower border of the forearm, as the foundation of the sling. About these, leaving the upper space open, are sewed the transverse strips. This forms a ventilated support, and when in place completes the means of leverage upon the fracture in extension. Four buckles (on the corners of the sling) receive the corresponding bands described above.

Napkins or strips of one thickness of linen torn from an old table-cloth interposed to absorb perspiration, and to keep the bands and pad clean, are very useful, but not indispensable.

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[1] The phrase "scalene triangle" may need modification—as, when applied, it would, to some, appear to be practically almost a quadrangle; or, more exactly, perhaps, in the language of trigonometry, it is an "oblique spherical triangle." Straps taking the place of lines (without breadth), and applied to surfaces far from agreeing in any plane, the figure is not easy to describe mathematically. It is best compared with parallel lines one and one-eighth inch apart, drawn upon a man's coat, in the same directions, and it has the same contour as that particular portion of this garment. It is best, indeed, to fit it to the individual patient when making it up.

The practical working of this apparatus when applied to the patient left nothing to be desired, which, every surgeon knows, is saying a great deal. The extension, counter-extension, and retention, were entirely satisfactory, although using his hands constantly, and as to his personal comfort, it is enough to add that from the moment of its adjustment all complaint ceased; in short, he became thereby a happy man, and in due time was made free also, through the excellent completion of the cure. The simultaneous saving of time and trouble to the surgeon was not the least of the advantages obtained in this important case.

Clinical Department.

CONGENITAL MALFORMATION OF THE HANDS.

Dr. W. J. Middleton, of Steelton, Pa., reports the following case of congenital deformity, seen in the person of a negro, now twenty-one years of age. He writes: "Each hand has a thumb and three fingers, while the middle finger is absent. The only bones lacking in the right hand are the last two phalanges of the middle finger. The proximal phalanx exists, and is of normal size, but instead of presenting in a straight line, it inclines toward the ring finger and articulates with a second phalanx common to both of these proximal phalanges. Both bones are encased in one integumentary covering and form but one finger. The metacarpo-phalangeal articulation of the middle finger is very loose, and flexion leaves an interspace at the knuckle. The extremities of the two phalanges are not united into one bone, but are movable upon each other. The left hand lacks all the bones of the middle finger, and is cleft to the carpus. The two almost equal halves of the hand can be approximated and separated at will. The index finger of this hand has a veritable double joint at the knuckle. This joint has the usual forward flexion motion, and an almost equally perfect lateral flexion toward the ring finger. This motion results from the introduction of a sesamoid bone into the joint, a wedge-shaped bone larger on the thumb side of the joint. The finger is as nearly straight as is usual. The man says that his parents and brothers are perfectly formed, and he knows of no reason for the deformity. His hands, notwithstanding the malformation, are large and strong. His business is to carry pig iron from the cars at the Bessemer works."

A CASE OF ASCITES DEVELOPED IN UTERO.

Dr. F. M. Crandall, of this city, writes: "On December 9th Dr. W. Gill Wylie was called to attend a patient in labor. The head and shoulders of the child were born with comparative ease, but great difficulty was experienced in delivering the rest of the body, owing to the enormous size of the abdomen. This was found distended, very tense, the superficial veins prominent, and upon percussion flat at the sides and tympanitic above, with distinct fluctuation. There was marked cyanosis and embarrassment of respiration, evidently due to pressure. Clear amber fluid, which was not urine, was withdrawn by the hypodermic syringe. The child was large, and apparently sound in every other way. There was slight jaundice, but no more than is frequently seen in young infants. The mother seemed perfectly healthy. The father has consolidation at the apex of one lung, but is otherwise healthy. I saw the child at night, intending to aspirate, but as it was then more comfortable I did not do so. I failed to pass a catheter, having none small enough, but on the following day a small catheter passed easily, and an ounce of normal urine was obtained. The urine was always passed naturally. On the following day there were three very large passages, black and tarry in appearance from the bowels, and at the same time the child had convulsions and rise of temperature. A few minute doses of calomel were followed by profuse natural movements and return of appetite. On the eighth day there was an attack of thrush, accompanied by diarrhœa and a papular eruption on the chest and extremities. It yielded easily to treatment, and both the thrush and eruption had disappeared in a week.

"The abdomen gradually became less distended and tense, the veins less prominent, and by the fourteenth day the fluid had nearly disappeared. During the first week the child had rapidly lost flesh, and became pale and pinched in appearance. This look had now passed away, and the child was growing and making rapid improvement when it was seized with capillary bronchitis, from which it died in five days. There was at that time no evidence of fluid. The abdomen was normal in appearance and size. No autopsy could be obtained."

A TOOTH GROWING IN THE NOSE.

Dr. E. Hanson Griffin, of New York City, reports the following case: "Patient, G. I——, aged thirty-two, applied to the Bellevue Throat Clinic, complaining of a sore throat and a pain in the back of the head of two days' duration.

"An examination of his throat showed that there was a cleft of both the soft and hard palate. In examining the upper gum I noticed the root of the second incisor tooth in the tissue, while an examination of the nose showed the tooth in a perfect state of development projecting from the floor of the nostril upward into the nasal cavity. He said the tooth had been there for years and gave him no trouble. He never remembered suffering any particular pain when it was growing, in fact did not know anything was the matter with his nose till one day while putting his finger into it he noticed something hard, and looking into a mirror found it to be a tooth. As it gave him no trouble he did not apply to a physician. He does not think the tooth has grown any of late years. He was a twin, but his sister's throat was in a perfect condition, and her nose free from any defect. The patient was opposed to any operation for the removal of the tooth, and as his sore throat was of a trivial character and not dependent upon his trouble, I did not urge a destruction of one of nature's whims."

DISPLACEMENT OF THE LARYNX CAUSED BY GOITRE.

Dr. J. W. Gleitsmann, of this city, presented the following case at a meeting of the Laryngological Section of the New York Academy of Medicine, January 22, 1886: Patient, male, fifty-two years of age, had a hard, fibrous goitre, causing displacement of the larynx to the right side and rotation on its vertical and antero-posterior axes. The upper part of the left thyroid plate was nearer the median line than the lower left part of the larynx, which was almost one inch removed from it. The whole larynx was also so turned on its vertical axis that its anterior part with the junction of the thyroid plates looked toward the median line, while the posterior part with the arytenoid cartilages was deflected outward.

The laryngoscope showed diagonal position of the vocal cords and glottis, running obliquely from left to right, and being located altogether on the right side of the throat. The cords approximated well, which fact accounted for the comparative clearness of the patient's voice. The lower part of the larynx being pushed further out, the left arytenoid cartilage had to make excessive movements to meet its fellow on the opposite side. The deviation of the larynx from the vertical line explained the fact that the right half of the larynx, especially the right cord, appeared to be in a somewhat higher plane than the left cord.

THE DECLINE OF IRIDECTOMY.

DR. C. E. NELSON, of New York, writes: "A news item, with this heading, appeared in THE MEDICAL RECORD of February 13th. Frequent changes are made in operations on the eye, notably in that of cataract. In the quotation from the *Medical Press* emphatic language is used regarding the innovation of iridectomy, as well as other medical fashions. But I will simply give a retrospect of the history of iridectomy. Before 1861, von Graefe, son, announced the *rationale* to be the relief of tension of the globe, as the iris being lessened, from shrinking back, its secreting surface poured out less aqueous humor. Bowman considered that iridectomy permitted a more direct communication to be opened between the aqueous and vitreous regions, allowing the morbid fluidity to come forward. Hancock, of Charing Cross Hospital, London, stated that glaucoma is due to spasm of the ciliary muscle; he therefore divided it; but Bowman dissected glaucomatous eyes, where there was completele atrophy of that muscle. The old surgeons, Antonius, Nucks, Johns, and Meckren, used to tap the globe; also Wardrop, in 1813. In our own day, paracentesis of the sclerotic has been advocated by Desmarres and Hancock.

"According to Bowman, glaucoma depends on inflammation or congestion of the choroid, the ocular pressure being a secondary condition. Von Graefe's operation is only calculated to remove the effect of the disease; it has no power whatever over the original cause of it —the inflammation (Nunnelly). As to the operation, Nunnelly entirely refutes von Graefe's statements, and substitutes an operation of his own, cutting through the constricting band, or junction of the different coats with the cornea. This operation is superior to Hancock's. All these operations are merely a form of paracentesis, with this difference, that ordinary paracentesis through the sclerotic does not relieve.

"Magni gave a theory opposed to that of Graefe. A subsequent theory was that instead of there being increased tension caused by increased production of fluids in the globe (from irritation of the ciliary nervous system), the glaucomatous tension was caused by an increased density of the sclerotic, which prevented exosmosis; therefore the treatment consisted of making a simple incision through the sclera. Wecker used to insert a fine gold wire—also in cases of separation of the retina by effusion.

"Galvanism has been recommended for glaucoma."

DISLOCATION OF THE UNGUAL PHALANX OF THE THUMB AND OTHER INJURIES.

DR. HORACE E. MARVIN, of Brighton, England, writes: "Reading in THE MEDICAL RECORD of January 16, 1886, a case of 'Dislocation of the Ungual Phalanx of the Thumb,' I am led to refer to a somewhat similar one which came under my care but a few days ago. E. B——, about fifty-five years of age, while intoxicated, fell down a long flight of stairs. I was summoned just after the accident, and upon examination found a compound dislocation of the left thumb. Both articular surfaces of the joint were exposed, the ungual phalanx being bent backward at a right angle with the proximal phalanx, and the wound extended quite across the palmar surface of the joint. The dislocation was easily reduced *secundum artem*, three sutures were introduced, and the thumb was put up in an extemporized pasteboard splint. The patient had complained only of his thumb, but when this was attended to he said he thought the right elbow was not all right. Upon examination it proved to be a multiple, probably T, fracture of the lower end of the humerus. While examining this I noticed a deformity of the right shoulder, which proved to be a dislocation of the head of the humerus into the axilla. Under ether I reduced the dislocation of the shoulder and confirmed the diagnosis of the fracture."

Progress of Medical Science.

JEJUNOSTOMY.—At a recent meeting of the London Clinical Society (*The Lancet*, December 5, 1885) Mr. Golding-Bird related a case of jejunostomy. The case was that of a man, aged forty-six, who had had symptoms of pyloric obstruction for ten months. When admitted into Guy's Hospital a tumor could be felt at the seat of the pylorus, and the man's general condition was one of extreme emaciation, through inability to retain the food he took, and his voluntarily abstaining from eating on account of the pain he suffered. After three weeks' treatment under Dr. Carrington by drugs and washing the stomach out, he passed into Mr. Golding-Bird's hands, and when all the risks had been explained to the patient, and all methods of palliation had failed to improve his condition, arrangements were made to explore the diseased parts and remove them if expedient. Mr. Golding-Bird, therefore, on October 25, 1885, cut down on the pylorus with a view to performing pylorectomy, following the lines laid down by Billroth; but, finding the tumor adherent to the liver, he determined to go no further with the radical operation, but to convert it at once into a palliative one of opening the jejunum—in other words, of performing jejunostomy. Having seized the jejunum two inches from the duodenum, it was held up on a pair of tongue-forceps, while the wound in the parietes was united; to the lower or right end of this wound was the jejunum now stitched by interrupted sutures. The patient suffered in no way as the result of the operation. He was fed partly by the rectum, partly by the mouth, until the third day, when the bowel was opened and food administered solely through the fistula. It was observed that as long as the meal amounted to a pint or nearly so, the patient each time he was fed had a severe attack of indigestion, but that this ceased when the meal did not exceed ten ounces. On this the author founded the suggestion that some cases of indigestion were due to the pylorus allowing too free passage of chyme, rather than to disturbance of the gastric or pancreatic secretions. Everything went on perfectly well till the ninth day, the patient gaining flesh; but on that day, through an error in feeding him, some food passed into the peritoneum, and he died in twelve hours. The post-mortem inspection showed such adhesion to and infiltration of the liver of the cancerous pylorus that pylorectomy could not have been performed. Except the narrow track made by the probe, and along which the food passed into the peritoneum, the adhesions of bowel and parietes were perfect. The author then reviewed the operation of pylorectomy, speaking in favor of it in suitable cases, and the operation of gastro-duodenostomy, as performed by Wölfler, and pointed out the great drawback in this operation, that the stomach is not relieved of its physiological duties at all, the pylorus not being required to act. For the operation of jejunostomy, as he termed the one that he detailed, he claimed that, while it possessed the same disadvantage as gastrostomy, in that the patient had to be fed through the fistula, it was otherwise the best palliative operation for pyloric cancer, inviting less risk than gastro-enterostomy and requiring less interference, in its performance, with the other viscera. By duodenal digestion, he also pointed out, full nourishment could be assured and there was, for physical reasons, less chance of regurgitation of food than after gastrostomy, regurgitation in these cases being a serious drawback to that operation in œsophageal constriction.

DOUBLE CONGENITAL DISPLACEMENT OF THE HIP: DESCRIPTION OF A CASE WITH TREATMENT RESULTING IN A CURE.—Dr. Buckminster Brown, of Boston, has placed on record a remarkable case, and for this reason it is worthy of notice in these columns. Seven or eight pages are devoted to the history of the mechanical therapeutics of this intractable deformity. The author quotes

from standard authorities enough to establish the recognized incurability of the ailment. He gives sufficient reference to the few reported cures, and shows how worthless much of the advice and many of the forms of apparatus are, when submitted to a critical investigation. He has not omitted a reference to coxectomy as practised by Margary, E. Rose, and C. Reyher. All surgeons have recognized the obstacles to retaining a displaced head in a shallow or imperfectly developed acetabulum. All have felt that if a new acetabulum could be formed, in place of the one impaired or completely deficient, a cure might result. Hence the attempt on the part of surgeons who possessed the character of boldness to make, by operative interference, the cavity so much desired. The results of these operations have not been sufficiently brilliant to encourage an extensive resort to the practice. The case here described is a well-authenticated instance of the entire formation of new acetabula in the places selected for them. In this respect it probably is unique. The profession, therefore, is indebted to Dr. Brown for recording a case with such candor and with such an admirable result. His patient was a girl, four years of age, in whom the deformity was well marked, and his description is sufficiently graphic to enable one to make the diagnosis. The treatment was begun December 30, 1882, and the first stage of treatment extended to January 6, 1883, during which time warm poultices were employed in order to relax the muscles. Direct extension was now made, the object being to tire out and stretch the pelvic muscles. After ten or twelve days there was sufficient relaxation to allow easy manipulation of the bones, and they were placed in natural position each morning. The tendency to slip, however, was still very great. By the middle of February this tendency had greatly diminished. Another stage was now begun, the object being to excavate a socket by absorption; the limbs were strongly everted, with the thighs flexed to nearly right angles to the body. It was necessary to secure the limbs in this position, but it could be borne for only two or three hours in the course of the day. At no time was the extension remitted, and the last time a displacement of either hip occurred was March 28, 1883. It was not until July 20th that any attempt was made to test the result, when there was found firm resistance in each direction, thus demonstrating the perfection of the newly formed sockets. In January, 1884, for the first time in thirteen months, the patient sat up in bed. The further progress of the case was exceedingly slow, and various devices were resorted to in order that no violence should occur to the reparative processes. On May 25, 1885, "the child's walk is normal and she enjoys walking; she steps with natural firmness and vigor. Like other children she takes a special pleasure in running." The brochure is well illustrated, with exact reproductions of photographs representing the different stages of treatment, the apparatus employed, and the different positions of the limbs during the course of treatment. It is impossible to give the details of treatment in a notice of this kind, and hence we must refer those interested to the little volume itself. A perusal of the same will call forth admiration for the persistence with which the surgeon carried out the treatment under such discouraging circumstances.

CONTRIBUTIONS TO THE PHYSIOLOGY AND PATHOLOGY OF DIGESTION.—Drs. Ewald and Boas have recently endeavored to throw some new light on the physiology and pathology of digestion (*The Lancet*, December 5, 1885). The investigations of Leube, Riegel, Ewald, and others, on the secretory activities of the gastric glands leave much to be desired. Indeed, in the present state of knowledge, it does not seem clear that any certain indications can be drawn from the chemical and physical condition of water that has been used to wash out the stomach—a method that has usually been followed in physiological investigations on man. The quantities of pepsin and free hydrochloric acid thus obtained vary so much, even in physiological circumstances, that a precise application of the results to the determination of pathological states is impossible. Again, Leube thought the secretory activity of the gastric glands might be inferred from the duration of gastric digestion, but experiments do not appear to support this view, for different observers have given different times as the duration of normal digestion. Then the influence of the motor and absorbent functions on the gastric secretions is altogether conjectural. In carrying out some fresh observations, Ewald and Boas have made use of some cases in the *Frauen-Siechen-Anstalt* in Berlin. One of the cases was that of a hysterical girl, aged twenty, who ever since the age of fourteen had been subject to vomiting, which regularly followed every meal. The particular time at which the emesis occurred appeared to vary proportionally to the kind of food ingested. If fluids were given, vomiting came on immediately; whereas if solids were administered, the stomach was not emptied for from two to four hours. As the result of several hundred observations on this girl, Ewald and Boas found that during fasting the contents of the stomach were free from the remains of food, as a rule neutral, and contained neither free hydrochloric acid, lactic acids, nor peptones. Schultz and Leube have stated that during fasting the reaction of fluid withdrawn from the stomach is strongly acid. According to the authors, it would appear that there is no foundation for the belief that lactic acid is necessary to the construction of hydrochloric acid. The main facts that have been elicited by Ewald and Boas are, first, that lactic acid tends to disappear as digestion goes on; and, secondly, that its disappearance is the more rapid the more active the digestive process is, but is also largely dependent on the kind of food. The earliest appearance of free hydrochloric acid and peptone is the third question that has been investigated. The experiments show that the process of peptonization begins almost immediately after the ingestion of food, and that in a mixed diet the process is directed at first rather by the lactic than by free hydrochloric acid. The curves of peptonization and the formation of hydrochloric acid go precisely together, attaining their summits at the same time, and falling synchronously. The summit of the curves does not coincide with the termination of digestion, but corresponds with the period at which the digestive activity is at its height; so that the formation of hydrochloric acid and peptonization attain their maximum some time before the disappearance of the contents of the stomach. The final question to which the authors address themselves is the part played by fat in gastric digestion. As a rule fat hinders the activity of gastric digestion. Fat remains a long time in the stomach, and no doubt leads to the formation of fatty acids, which cannot be without influence on the physiological processes. It had been found that on a pure white-bread diet, after fasting, the lactic acid could be detected for sixty minutes, after which time only hydrochloric acid could be found. But when fat or butter was also added, the duration of the digestive process was increased to two and three hours, according to the proportion of fat. In these experiments it was also found that hydrochloric acid was present in but small quantity, while lactic acids existed in abundance. To the deficiency of effective hydrochloric acid Ewald and Boas attribute the prolongation of digestion. This series of experiments also confirms a point already alluded to, that when the digestion is prolonged the lactic acids are slow to disappear. The chief conclusion to be drawn from these investigations is that the prolongation of digestion is the most certain sign of impairment in the process. This prolongation may be brought about as the result of mechanical disturbances and chemical alterations. The therapeutic indications to be gained from these considerations would appear to be the removal of all those influences which prevent the proper locomotion of the stomach, and the due performance of its chemical work, or that hinder its absorbent powers in any way.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 13, 1886.

RECENT PROGRESS IN HOSPITAL CONSTRUCTION.

THE hospital is the product of an advanced and Christian civilization, and the good that has been wrought through its agency is incalculable. We are realizing now, however, that hospitals in the past must often have been most bungling instruments in relieving disease and suffering. In ninety years, for example (1741 to 1827), the proportion of cures to deaths in St. Bartholomew's Hospital increased fivefold; and even in the present century the death-rate in Bellevue Hospital was for forty years twenty per cent. on admissions, instead of the present number, ten. It was partly owing to the imperfect construction and ventilation of hospitals that the death-rate for all amputations used to be nearly forty per cent., while now it has been reduced more than one-half. There is plenty of evidence now to show how imperfect in construction and administration our hospitals used to be, and, to a large extent, still are, undoubtedly. The victims of bad hospitals are greater in number than those of war and pestilence.

For many years hospitals have been built according to conventional methods, and with no particular reference to sanitary laws. It is only in recent times that the laws of hospital building are becoming known, formulated, and followed. The main principle in modern hospital construction is that of the one- or two-storied pavilion, water-closets and administration offices being separate from the wards. Dr. A. C. Heffinger, U.S.N., has recently given (*Boston Medical and Surgical Journal*, February 4, 1886) an interesting account of what he believes is a still further step in advance, viz., the circular pavilion ward.

Dr. Heffinger says: "The great advantages of circular structures, especially when surmounted by domes, seem to have been first discovered by Dr. McKenna, a Scotchman, who happened to be in South America about forty years ago during one of the many revolutions which have repeatedly convulsed the petty republics of that continent, and who had the care of a number of wounded. The patients were treated in convent rooms, which were always rectangular, and in convent churches, which were always in the form of domed circles. Those patients treated in the churches did so much better, indeed marvellously better, than those cared for in the rooms, that he was struck by the difference, and induced to make a close study of the matter. This clever Scotchman soon became convinced that circular structures with domed ceilings were far superior to any other tried form for housing the sick.

"Sir Andrew Clark, who recalled the views of Dr. McKenna before the Hospital Association of London in December, 1884, also related at that time how he had accidentally discovered the automatic ventilation characteristic of the domed circle, while inspecting the grand domed circular tomb at Delhi, in hot, calm weather. He inadvertently let fall from his card-case a small slip of tissue-paper, which, to his amazement, instead of falling slowly to the floor was steadily wafted upward to the centre of the dome. Afterward he made repeated experiments of the same nature in various parts of the circular domed temple at Calcutta, and always with the same result. It is quite evident that there are natural air-currents directed upward from all parts of a room thus shaped, though the governing philosophy is by no means clear.

"The circular ward was also originated independently by M. Baeckelmans, of Antwerp, in 1873, and Professor John Marshall, of London, in 1878."

Dr. Heffinger states that he also independently conceived the idea that circular wards were the best. At present the Antwerp Civil Hospital and the Miller Memorial Hospital are the only completed types of this form of hospital. There are, however, several hospitals in France built upon the *Système Pollet*. These are one-storied pavilions, with arched Gothic roof, and have, perhaps, some of the same capacity for natural ventilation.

It saves lives to build hospitals according to the best sanitary principles. Still it is often impossible from lack of money to do this; and it cannot be denied that by scrupulous cleanliness almost as good results can be gotten by the surgeon, at least in old-fashioned hospitals, as in the most scientifically constructed edifices.

In this connection we may add a notice of a most ingenious field hospital recently invented by Mr. William M. Ducker, of Brooklyn. It may be remembered that about a year ago international competition was solicited, through a prize offered by the Empress of Germany for the best design of a portable field hospital useful for the work of the Red Cross Society. The exhibition of the inventions called forth by this imperial order occurred at Antwerp, Belgium, not long since, and a silver medal was awarded to Mr. Ducker, who, in addition, has been honored with a message from the Emperor, congratulating him upon the excellence of his invention.

In an account of it given in *Harper's Weekly*, it is said:

"When it is borne in mind that this structure, which is entirely weather-proof, can be erected without the driving of a single nail; that its weight when taken apart and packed for transportation is only about two thousand five hundred pounds; that its cost, completely furnished, is from two hundred to two hundred and fifty dollars; and that two men can easily erect it in a little more than an hour's time—its points of superiority over the hospital tents hitherto used in the field will begin to become apparent."

We have only space for the following facts regarding its construction: "The main structure is thirty-four feet long and seventeen feet wide, the height from the floor to the ridge-pole being ten feet three inches. The whole

is built in sections which are so arranged with keys and slots as to lock into one another. The sides of the structure consist of six double sections, which may be roughly described as strong wooden double trays."

THE GALVANO-CAUTERY IN DIPHTHERIA.

As startlingly severe as this means of therapy may seem, it yet has been tried by one or two bold physicians on the Continent, and, as was to be expected, they are enthusiastic in its favor. It appears to have been used nearly thirty years ago, but we can easily fancy that in spite of reported cures it was not tolerated and speedily fell into disuse. Nor do we believe that it will ever become, with parents at least, a popular remedy in the treatment of our most powerful foe, diphtheria. They will look upon it just as they would regard the actual cautery—as a "red-hot iron"—much as they now regard tracheotomy, as "cutting the child's throat."

The only definite information concerning this measure is by Tedeschi, of Trieste, and Bloebaum, of Coblenz. The latter had used this agent in similar pathological conditions in ophthalmological practice. He assured himself that the galvano-cautery (the wire loop) does not produce inflammation, but is an antiseptic, leaving the necrosed parts harmless and powerfully stimulating the underlying tissues to healthy growth. He regards it as the only true and certain parasiticide.

Tedeschi gives a well-written account of the actual application of this method of cure. The pain inflicted is slight. A cocaine spray has not been deemed necessary. When the pseudo-membrane is touched with the heated wire loop it curls up, finally sloughs off, and the ulcerated surface left does not reproduce the patch. If the whole exudate is removed in this way, the process does not extend beyond the limits of its former margins. After the above procedure, the fever, œdema, and glandular swelling all disappear. The period of the coming away of the eschar varies from the eighth to the eighteenth day. The immediate after-treatment is limited to swallowing chipped ice. Later, benefit may be derived from the customary steam and lime-water sprays and gargles.

The great advantage claimed for this method over the use of chemicals is in its perfect localization. Any solutions to be of great power must be so concentrated as to irritate surrounding tissues. Toleration by the latter necessitates a solution so weak as to be practically useless. A specific ulcer is by the cautery converted into a simple one—so say the advocates of the new method.

It will at once be seen that this idea premises a view of the nature of diphtheria which is still under discussion, and by many competent minds rejected, namely, that the disease is primarily a local one, and that constitutional symptoms arise from septic absorption through the lymphatic channels. Whether this be true or not, we know that many cases present themselves in actual practice where there can be no doubt as to the diagnosis, and yet where the throat does not present any exudation—in other words, where there is no indication for the use of the cautery. We do not think that under any circumstances the cautery method of treatment will become popular in American medical practice. It must be looked upon as a therapeutic curiosity, and rather a forbidding one at that.

PHYSIOLOGICAL EXPERIMENT AND ITS RELATION TO THERAPEUTICS.

It is gratifying to observe the large amount of really practical work which physiologists have accomplished during the past four or five years in a branch of research which offers constant temptations for wide theoretical digressions, and for the accumulation of endless data which can be turned to no practical account. Especially prominent in their value as a contribution to medical science are the classical experiments of Matthew Hay upon the action of saline cathartics, and the experiments of Professor Martin upon the isolated mammalian heart, which was kept beating for many hours while it was made to exhibit the effects of alterations in both venous and arterial tension upon the work of the heart.

The admirable work of Lauder Brunton upon therapeutics gives the most instructive summary of recent practical physiology, and is in itself an irresistible argument for the continuance of properly conducted vivisections. A valuable and interesting contribution to the methods of physiological research is briefly outlined in another column by its discoverer. It is an ingenious application of the process of instantaneous photography to the study of the action of drugs upon the living heart and intestines, which possesses the advantage of reducing the errors of personal observation to a minimum, besides affording a graphic method of enlivening many facts of materia medica which prove so difficult for students to acquire. We have had an opportunity of personally examining several hundred of the photographs, as well as of seeing the negatives enlarged by a stereopticon, and we are convinced that this method of demonstration could be made of great value for instructors in physiology and therapeutics.

PYROGALLIC ACID IN THE TREATMENT OF SKIN DISEASES.

Pyrogallic acid is just now the vogue among many dermatologists, and there is considerable evidence as to its especial utility in certain skin diseases. Dr. Charles W. Allen, of this city, has given a very complete account of the uses of this drug in an article in *The Journal of Cutaneous and Venereal Diseases* for January, 1886. Introduced by Jarisch, of Vienna, about seven years ago, it has been extensively used since then by Kaposi and Neumann, of that city; by Schwimmer, of Buda-Pesth; Besnier, of Paris, and others, including several physicians in this city.

The diseases in which it has been tried have been chiefly psoriasis, lupus, epithelioma, and chancroid, but there seems to be no doubt that it is against lupus that pyrogallic acid acts best. The method of using it here, as described by Schwimmer, is as follows:

"Vaseline is first applied for several days, or as long as necessary to remove all secondary morbid products, scales, secretions, and dirt, a ten-per cent. pyrogallic ointment is then applied during from four to seven days, being renewed two or three times daily. Vaseline is now to be applied again for one day to remove all of the acid. The entire suppurating surface is now to be covered with mercurial plaster, under which healing takes place in from ten days to two weeks. This process may be gone through with several times until no more tubercles appear. Professor Schwimmer says the

treatment of a case seldom exceeds three or four months. A speedier and much better resolution of the most advanced and wide-spreading lesions are found to take place under this combined plan of treatment than could be accomplished by the combined treatment of scarification and the thermo-cautery."

Occasionally some toxics effects are observed from the use of pyrogallic acid, but this is rare and only occurs when it is very extensively applied. It has not supplanted the use of chrysophanic acid in the treatment of psoriasis.

THE TREATMENT OF CHRONIC GONORRHŒA WITH CANNELLATED SOUNDS.

DR. LEOPOLD CASPER, of Berlin, states that he has succeeded in curing thirty cases of chronic gonorrhœa with the "cannellated sound." Fourteen of these had already been treated for over a year and a half, and six for over a year by various other measures. Despite the assurances of some specialists to the contrary, there is often nothing more difficult to cure than a long-standing case of gonorrhœa. The use of sounds and urethrotomes, of deep injections and cauterizations, of salves and medicated bougies, will all fail at times, while the patient is liable to become the prey of quacks or to relapse into hypochondriasis.

Dr. Casper starts out with about the same confidence in his new cure which is expressed by all who devise a new therapeutic measure for the relief of urethral and sexual difficulties. There is something in the nature of this department of medicine which makes its therapeutics untrustworthy, and we are very much disposed to distrust the assertions of Dr. Casper. In the first place, it is the general experience of those who make a specialty of treating mucous membranes, in whatever part of the body, that medicated cerates, ointments, etc., are not very efficient agents. Despite much pushing, the use of soluble bougies, for example, in the treatment of vaginal, uterine, urethral, and nasal troubles has not attained any great foothold. It is true, however, that the application by sound of Unna's salve in chronic gonorrhœa has been occasionally effective, and Casper's method is rational in that it combines the use of mechanical pressure and chemical action upon the diseased part. His cannellated sounds are of the ordinary shape, with six grooves, one and a half millimetre deep, running from the handle to within five centimetres of the point. These grooves are filled with a mass which is solid at the temperature of the room, but melts at the temperature of the body. The formula given is as follows:

℞. Olei theobrom.....	100.0
Ceræ. flav.....	2.0–5.0
Argenti nitrat.....	1.0
Balsam. Peruvian.....	2.0

In the beginning a three per cent. resorcin ointment is sometimes used, but the silver is believed to be better in obstinate cases. The sounds used are of "neusilber," and no chemical action occurs through the presence of the nitrate.

If the patient has a stricture of small calibre it is dilated with bougies up to No. 18 Charrière, and then the cannellated sounds are used, increasing their size up to No. 23. The sound should be allowed to remain in the urethra for from a few minutes to half an hour, the longer the better, provided it is not too painful to the patient. An average of about ten applications was found necessary to cure the cases.

Dr. Casper considers it important to locate the gonorrhœa, and gives some indications for diagnosticating between an anterior and a posterior gonorrhœa. Most of his cases were situated at the junction of the bulbous and membranous parts of the urethra. Of 100 callous strictures 70 were in this location, 20 in the fossa navicularis, and 10 in the remaining portion of the pars spongiosa. When the disease is limited it is not necessary to fill up the grooves of the sound their whole length with the medicated ointment.

SYPHILIS AND VIRGINIA CIGARETTES.

CERTAIN Southern tobacco firms have undertaken to advertise their wares by distributing photographs of the young women in their employ. The scheme is ingenious, and we doubt not commercially advantageous to photographers, cigarette-makers, and the cigarette girls. The majority of the pictures in question are of young women posed in positions calculated largely for the display of their lower limbs and neatly striped hosiery. With the morality of the policy which aims to sell cigarettes by exhibiting the legs of the female employees we have nothing to do. But it should merely, from a business point of view, eventually turn out to be a bad one. For only one thing can be thought of the women who consent to have themselves thus photographed. The Virginia firms are in effect informing the people, their customers, that some loose women are concerned in making their cigarettes. Now such women are constantly liable to have syphilis, and while syphilitic to roll cigarettes. It would be quite possible for infection to be sent with the articles upon which they work. It is well known that syphilitic cigar-makers have infected their cigars, and the same thing may happen with cigarettes. At any rate the intelligent customer will hardly care to purchase cigarettes made by those whom he may reasonably think are prostitutes.

BEER AS A CAUSE OF DISEASE.

THE State Board of Health has had an analysis made of various samples of beer, four hundred and seventy-six in all. The State analyst, Dr. F. E. Engelhardt, who made the examinations, found substitutes for malt in about one-fourth of the samples. He found no specially deleterious substances in the beer from the breweries, but did find glucose and bicarbonate of soda. Beer from retail dealers is more likely, it is said, to be adulterated, the substances used being burnt sugar, quassia, cocculus indicus, etc.

It was also found that the sanitary condition of some breweries was very bad. A law was recommended providing that beer shall contain only hops and malt, or their constituents, and that the breweries and beer itself shall be constantly subject to State inspection.

Some three years ago the *Mail and Express* collected a large amount of testimony from medical men as to the deleterious effects of ingredients of beer, and the subject has been again revived in its columns.

The facts alleged against beer are that its consumption is enormously and alarmingly increasing; that it is often adulterated with injurious matters, and that its excessive consumption causes disease of the kidney, fatty liver, and "biliousness," fatty degeneration of the heart, and other degenerative changes.

It is estimated that the total amount of malt liquors brewed annually in this country and Europe is three billion gallons, of which six hundred million are brewed in the United States. The average amount consumed annually per capita, in our country, is now about eleven gallons, while forty years ago it was only one gallon. The annual increase in the production of beer is from six to seven million gallons. The number of breweries is now two thousand two hundred and thirty.

The very rapid increase in the production and consumption of beer is beyond a doubt, but it is not safe to found any alarmist statements on this ground, for it appears from figures given by Mr. Samuel G. Child, of Boston, that the total amount of alcohol consumed per capita in the United States is not increasing, but rather the contrary. Thus, assuming that the amount of pure alcohol in spirits, wine, and beer is fifty, eight, and five per cent. respectively, the table which he gives is as follows:

GALLONS ALCOHOL CONSUMED PER CAPITA.

	Distilled spirits at fifty per cent.	Wine at eight per cent.	Beer at five per cent.	Total alcohol.
1840	1.260	.023	.069	1.352
1850	1.115	.022	.079	1.216
1860	1.430	.028	.162	1.620
1870	1.035	.026	.266	1.327
1880	.620	.045	.413	1.078
1881-82-83-84 ..	.730	.037	.508	1.275

As for adulterations, the additions of glucose and soda are comparatively harmless. The other additions, of which long lists are given, are found by the State chemist in small amounts or not at all. By far the most serious adulteration, and practically the only one, is that of alcohol. The exact extent of this adulteration cannot yet be determined, but that it is made there is little doubt. Fusel-oil and cheap corn alcohols have been used; but lately, as we are informed on good authority, methylic or wood spirits have been employed. In lager-beer the alcohol amount is small, and is much less often fortified with impure spirits.

The injurious effects of beer come on slowly and insidiously, if at all. They are very marked in persons who drink continuously and excessively. The excessive ingestion of fluid causes a plethora, then hypertrophy of the heart and fatty degeneration of its muscle. In Munich the normal male heart, for example, weighs more than elsewhere, and it is often found to be fatty.

The charge that the habit of beer-drinking causes Bright's disease or serious liver disease is not very strongly suppported; still, it has some facts in its favor. Since 1870 the consumption of beer in this country has doubled. In New York City the ratio of the deaths from Bright's disease has changed from 3.40 per cent., on the total annual deaths in 1874, to 5.40 per cent. of the total deaths in 1884. Here is apparently a very striking increase; still, of course, no positive deductions can be drawn from such data alone.

News of the Week.

REMARKABLE FECUNDITY.—Dr. C. L. Fletcher, of Wing's Station, N. Y., writes: "In the medical items of THE MEDICAL RECORD of February 27th mention is made of two women presenting at Professor Parvin's clinic who had borne respectively eighteen and sixteen children. A woman residing in this town has given birth to twenty-five children. She is hardly past the prime of life, and is now in good health, having recently recovered from an attack of scarlet fever. When the writer was in practice in Northern Vermont he often had occasion to prescribe for the different members of a family in which the mother had given birth to twenty-five children, having three pairs of twins in the crib at one time. The same woman had two sisters who had borne respectively twenty-two and eighteen children, making a total of sixty-five from the three sisters. It is needless to say that all the families are poor in the financial sense."

DR. GASPAR GRISWOLD.—The medical community was greatly shocked to learn of the sudden death, on March 4th, from peritonitis, of Dr. Gaspar Griswold. Dr. Griswold was only 29 years of age, but he had already given promise of a brilliant career. He was born in this city in 1857. He graduated from Columbia College in 1876. While in college he was prominent as an athlete, and was a member of the famous crew which in 1874 won the intercollegiate regatta at Saratoga. In the course of his professional studies he served a term as house physician at Bellevue Hospital. Subsequently he went to London, where he took the degree of Fellow of the Royal College of Surgeons—an unusual honor for a young American. On his return to this country he became associated professionally with Dr. Fordyce Barker. He also became Demonstrator of Anatomy at Bellevue Hospital College, and held that position at the time of his death. He frequently contributed articles of value to the medical journals. Dr. Griswold was socially a most agreeable man, and was very popular with all who knew him. He left a wife, but no children.

THE DEATH OF DR. GEORGE MCINTOSH MACLEAN of Princeton, N. J., in his eightieth year, is announced.

THE BALTIMORE MEDICAL COLLEGE held its Annual Commencement on March 4th, graduating a class of sixteen.

THE NEW YORK POLYCLINIC.—The report of the Secretary at the annual meeting of the Directors and Faculty of the New York Polyclinic, held at the College Building on January 28, 1886, showed an attendance upon the clinics in that institution, since the opening, on November 7, 1882, of seven hundred and nine physicians. Of this number, one hundred and fifty-six had taken out the general ticket, which admits the holder to the lectures in all the departments taught at the school.

The ratio of attendance upon the various departments is shown in the following list of tickets sold since November, 1882, up to January 28, 1886: Gynecology, 461; surgery, 412; medicine, 313; throat, nose, and ear, 300; children, 273; eye, 250; skin, 234; mind, and nervous system, 207; physiological chemistry, 173;

obstetrics, 163; pathology (laboratory only recently opened), 15. Total, 2,801. The attendance for the present session is in excess of any previous term.

INTERMITTENT UTERINE CONTRACTIONS.—Dr. E. H. Grandin, of New York, writes: "In the issue of THE RECORD for February 27th, you quote from a letter from Dr. Hall of Ohio to the effect that I was mistaken in saying that 'an intermittent rhythmical contraction of the uterus, as a positive sign of pregnancy, is referred to by only one authority (Lusk), and by him very briefly.' And then follows reference to Mr. Tait as being further authority. Had your correspondent read the abstract of my paper in your journal carefully, or had he waited till he had seen the paper in its entirety, he would not have himself fallen into the error of charging me with making any such statement as the above. Every writer on obstetrics refers to the value of intermittent uterine contractions in the diagnosis of pregnancy. The point I endeavored to make, and which is clearly made in my paper, if not in the abstract referred to, was simply that this sign was of peculiar value in the *differential* diagnosis between *two* varieties of pregnancy—the uterine and the abdominal—and that in this connection the sign is not referred to as of value by any obstetrical writer except Lusk. It would appear, therefore, that after all, Dr. Grandin was *not* mistaken.

"N. B.—This sign is particularly of value in differential diagnosis, because, in case of abdominal pregnancy, all other signs of pregnancy may be present, and this one alone being absent, the differential diagnosis is at once made."

THE ORIGIN OF THE MONTREAL EPIDEMIC OF SMALL-POX.—The sub-committee appointed by the Civic Health Board to inquire into the origin of the late small-pox epidemic have submitted their report. From this we learn that previous to the beginning of 1885 there had been no small-pox in Montreal for several years. There is some disagreement as to the origin of the epidemic, but it seems probable that the disease was brought to Montreal from Chicago by an infected Pullman car conductor; that this man was admitted as a patient to the Hôtel Dieu, and not being carefully isolated, he communicated the disease to attendants and other patients, causing an epidemic in the hospital. The hospital was then closed, and the inmates leaving, distributed the disease through the city. The local health authorities are severely blamed by the Canada *Medical Record* for not having any provision for receiving and isolating small-pox patients.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE is the name chosen for the newly organized college in Pittsburg, Pa. We are informed that it has been liberally endowed, and will begin lectures in October next.

DR. DANIEL G. BRINTON, whose work in American Ethnology was recently very favorably criticised in the *Atlantic Monthly*, has been made laureate of the Société Américaine de France for 1885, and has been awarded the medal of the Society for his works on the aboriginal tongues of America.

THE BLIND IN RUSSIA number 1 in 125, while in most European countries the proportion is only 1 to 1,000 or 1,200. The ratio given for Russia, however, applies only to young male adults, and not for the whole population.

RECOGNITION OF ITALIAN WOMEN PHYSICIANS.—The first official recognition of female medical practitioners has just been made by the Italian government. The recipient of this distinction is Signorina Terne, M.D., whom Queen Marguerita has appointed one of her physicians in ordinary.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF TENNESSEE held its Annual Commencement in Nashville, on February 26th, and graduated a class of 57 doctors and 13 dentists.

THERE IS A BILL BEFORE THE VIRGINIA LEGISLATURE for a "Homœopathic State Board of Examiners," and as there are only fifteen homœopathic practitioners in the State, according to the *Virginia Medical Monthly*, it is proposed that the homœopaths appoint a committee to examine in materia medica and therapeutics such candidates as signify an intention to practise homœopathically.

EMETIC DOSES OF IPECAC IN SUFFOCATIVE CASES.—Dr. L. Emmett Holt, of New York, writes: "In your report, in the last issue, of the discussion at the Academy of Medicine on 'Infantile Bronchitis,' I am reported to have said that at one time I was much averse to the use of ipecac, but on further trial thought it beneficial in selected cases. The point was not regarding the *use* of ipecac, but *emetic doses* of ipecac in the suffocative cases."

THE HOSPITAL COTTAGES FOR CHILDREN AT BALDWINVILLE, MASS., are about to be enlarged by a building to be devoted entirely to the care and treatment of epileptic children. It is to be completed by the middle of June, and will accommodate thirty-five patients.

M. PASTEUR has been knighted with the "Grand Cross of the North Star" Order by His Majesty King Oscar of Sweden.

EMERITUS PROFESSOR C. G. SANTESSON, OF STOCKHOLM, the famous anatomist and surgeon, died of paralysis of the heart in his sixty-fifth year.

NOMINATIONS FOR HEALTH OFFICER AND QUARANTINE COMMISSIONERS.—Governor Hill, of New York, has sent to the State Senate the following nominations: Dr. Charles H. Phelps, of New York, for Health Officer of the Port of New York, and Dr. J. Douglas, Marshal B. Blake, of New York, and Charles S. Higgins, of Brooklyn, as Quarantine Commissioners. The medical gentlemen named—Drs. Phelps and Douglas—will make good appointments, and will carry with them the respect and endorsement of their professional brethren in this city. Dr. Phelps is one of the representative surgeons of this city, and holds many positions of trust with great credit to himself. He has been for many years, and is still, surgeon to Bellevue and St. Vincent's Hospitals. Dr. J. H. Douglas is widely and favorably known as one of the physicians who attended General Grant, and will bring to his new office those sterling qualities of a skilled physician and upright gentleman for which he has been noted by his many friends. As we go to press the nominations have not been confirmed, although there are good reasons for beleiving that they will be.

SEVEN DEATHS FROM FOOT-BALL have been recorded in the English journals during the past season. The last victim was a young man twenty-five years of age, who was kicked in the stomach.

GERMAN DOCTORS WITH BOGUS DIPLOMAS.—It is reported that proceedings are about to be instituted in Germany against a number of persons styling themselves "Doctor" on the strength of diplomas purchased *in absentiâ*. In Berlin alone there are said to be 3,400 of these "doctors," either of medicine, philosophy, or law. *The Lancet* states that all the bogus diplomas were purchased in America, but this is hardly fair.

LIGATURING THE SUBCLAVIAN WITH CATGUT.—At the meeting of the Academia Médico-Quirúrgica Española, on January 12th, Señor Ustariz described a successful case of ligature of the subclavian artery with a catgut ligature, prepared with corrosive sublimate, for an axillary aneurism of the size of an orange. The patient left the hospital cured fifteen days after the operation.

THE NOMENCLATURE OF BRAIN DISEASES.—In pursuance of a resolution passed at the Medical Congress on Brain Diseases, held during the last summer at Antwerp, by which it was suggested that local conferences should be held to draw up trustworthy international tables of statistics on insanity, a conference of Austro-Hungarian specialists will be held at Vienna on the 26th and 27th inst., with the object of revising and extending the nomenclature of mental disorders. Invitations to the conference have been issued by four leading medical men of Vienna.

A STRIKE AMONG MEDICAL STUDENTS.—The medical students of the Brussels University have for some time refused to attend the lectures or continue their studies. Their return to the University does not seem probable at present. The reason they advance to explain their conduct is the dismissal of the clinical professors by the administration of the hospitals, in order to replace them by others of their own choosing. The Brussels University is quite independent of State protection.

VERY TRUE.—The distinguished President of the American Medical Association writes to the *Canada Medical and Surgical Journal*, with regard to the International Congress, that "when the medical savants of Europe come to Washington they will be much surprised at the scientific papers presented, and the discussion had upon their own papers." We quite agree with the eminent correspondent.

NITROUS OXIDE AS AN ANÆSTHETIC.—M. Laffont, in a recent communication to the Paris Société de Biologie, stated that nitrous oxide is a most dangerous anæsthetic. He has since further prosecuted his experiments, and at a subsequent meeting confirmed his previous statement. He has found proof that nitrous oxide is not an anæsthetic, but an asphyxiating agent, as MM. Jolyet and Blanche have proved. When this agent is used by dentists to produce anæsthesia, hyperglycæmia and glycosuria result. M. Laffont has verified these phenomena by personal experience. He has also ascertained that in animals these results take place before anæsthesia, during the period of deep breathing.

THE INITIAL STAGE BOTH OF MUMPS AND MEASLES is highly infectious, according to Dr. William Squire, in *The Lancet*.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK held its forty-fifth annual commencement on March 6th, and graduated a class of 173. The Hon. Wayne MacVeagh delivered the address to the class. The medallists were: Dr. S. Green (gold medal), Dr. T. D. Merrigan (silver), and Dr. M. L. Ford (bronze). Drs. E. J. Lorenze, W. T. Gibb, D. D. Jennings, and G. H. Coombs took hospital appointments; Drs. J. L. Babcock, D. H. Sprague, and B. F. Pierce took the faculty prizes. Dr. J. J. Quigley delivered the valedictory.

CHENOPODIUM AND RUPTURE OF THE STOMACH.—A girl, aged twelve, living at Trenton, N. J., died suddenly of rupture of the stomach, as *post-mortem* showed. She had been taking a mixture containing chenopodium in considerable quantity, and the friends brought suit against the doctor in attendance, Dr. E. Rogers, claiming that the medicine caused the rupture. This, of course, was not sustained, and the jury returned a verdict exonerating the physician.

A NEW SOCIETY IN BOSTON.—A therapeutical society has been organized in Boston, with Dr. A. F. Pattee, President; Dr. Albert Day, Vice-President; Dr. W. F. Mead, Treasurer; and Drs. A. H. Wilson and J. W. Johnson, Secretaries.

"THE NIGHTINGALE" is the title of a new periodical, published in the interests of nursing, and edited by Dr. Sara E. Post. There seems to be an excellent field for such a paper, and its first issue is a creditable one.

THE MEDICAL DEPARTMENT OF THE ARKANSAS INDUSTRIAL UNIVERSITY held its Annual Commencement on March 5th. The valedictory was delivered by Professor T. E. Murrell.

THE HEALTH OFFICER'S FEES.—Health Officer Smith has made a report to the State Senate with regard to the work of his office. It appears that in the past four years he has received $203,140, and disbursed for expenses $93,923, leaving a balance of $109,217, or about $27,000 per year.

RESOLUTIONS IN MEMORY OF THE LATE DR. ALFRED C. POST.—*Whereas*, It has pleased an All-wise Providence to remove from our midst Dr. Alfred C. Post, his former colleagues of the Medical Board of the New York State Woman's Hospital have unanimously

Resolved, That to the life and services of Dr. Post, and to their long and intimate association with him, they look back with grateful remembrance, while the memory of his many virtues and his constant devotion to duty adds to their sense of his loss.

Resolved, That during an exceptionally long and busy career, he never lost sight of the higher interests of the profession; and he discharged his duties, even in the smallest detail, to the various societies, hospitals, and institutions of learning with which he was connected, with rare fidelity. In his connection with the Woman's Hospital, as senior consulting surgeon and president of the medical board, he took an earnest interest in that insti-

tution, and was ever ready to aid his colleagues with his experience and his counsel.

Resolved, That these expressions of affectionate respect for Dr. Post's memory be printed in the medical journals of New York, and be respectfully transmitted to his family.

JAMES T. HUNTER, M.D.,
CHARLES CARROLL LEE, M.D.,
For the Medical Board.

March 8, 1886.

DR. MIDDLETON GOLDSMITH'S BEQUEST TO THE NEW YORK PATHOLOGICAL SOCIETY.—The following note, addressed to Dr. John C. Peters, will explain itself:

DEAR PETERS: I hereby agree to give in trust to the New York Pathological Society (when incorporated) ($2,000) two thousand dollars, in money or securities, as the Society may elect, and promise to give by will ($3,000) three thousand dollars more, payable at the death of my wife and myself. This promise, I am assured, is good in law. Yours very sincerely,

M. GOLDSMITH.

RUTLAND, VT., March 3, 1886.

Reviews and Notices.

DISEASES OF THE LUNGS (of a specific, not tuberculous, nature). By PROFESSOR GERMAIN SÉE, Physician to the Hôtel Dieu, Paris, etc. Translated by E. P. HURD, M.D. Pp. 398. New York: William Wood & Co. 1885.

THE subjects discussed under the above heading are Acute Bronchitis, Infectious Pneumonia, Gangrene, Syphilis, Cancer, and Hydatids of the Lungs. It goes without saying that the tone of the discussion of these topics is throughout dignified and convincing. Perhaps the most interest will centre about the chapters on Pneumonia. In order that a frank fibrinous pneumonia may develop, "it is necessary that a specific agent, a special microphyte, shall be brought in contact with the pulmonary tissue and there multiply. Ordinary frank fibrinous pneumonia, then, is an infectious disease, not in the sense of being a general disease, but in the sense of being a parasitic microbic disease." The author regards an etiological unity as existing between sporadic pneumonia and epidemic pneumonia. Pneumonia remains local as long as the parasite does not pass beyond the bounds of the pulmonary parenchyma; but when it diffuses itself, and pervades the general circulation and various viscera, either by the blood-channels or the lymphatics, it becomes an infectant disease.

Part III. treats of the general therapeutics of the broncho-pulmonary inflammations, and is a general *résumé* of the various methods presented by different epochs in the history of medicine.

In the chapter on Syphilis of the Lungs, three queries are made concerning those pulmonary lesions whose syphilitic nature is still under dispute: 1. Can syphilis determine, in the pulmonary tissue, lesions similar to cirrhosis of the lungs? 2. Is pulmonary cirrhosis frequently associated with visceral syphilis? 3. Do there exist special characters attributable to syphilitic pulmonary cirrhosis? To the first a full, and to the second a partial, affirmative answer is given. The third point is regarded as still under dispute.

The translator's preface is a concise statement of the present aspects of the germ theory of disease. He has been able to secure, as appendices to the volume, an article on Bacteria, by Dr. Dujardin-Beaumetz; also a reprint of Dr. George M. Sternberg's article on the Pneumococcus of Friedländer. The latter may or may not be regarded as having confirmed the main thesis of the author of the chapter on Pneumonia; they (Dr. Sternberg's studies) certainly have opened up a most interesting line of inquiry as to the possible morbiginous influence, under certain conditions of depressed vitality, of bacteria which are occasional components of healthy animal fluids.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by WILLIAM PEPPER, M.D., LL.D., assisted by LOUIS STARR, M.D. Vol. II.: General Diseases (continued), and Diseases of the Digestive System. Pp. 1312. Philadelphia: Lea Brothers & Co. 1885.

THE present volume concludes the general diseases, including rheumatism, gout, rachitis, scurvy, purpura, diabetes, urethritis, scrofula, and hereditary syphilis. Drs. R. Palmer Howard, William H. Draper, A. Jacobi, Philip S. Wales, I. Edmonton Atkinson, James Tyson, John S. Lynch, and G. William White are the gentlemen who treat of these topics. Dr. Howard's article on the various forms of rheumatism is very complete, and in descriptions of the various theories of pathology and of treatment he exhibits excellent judgment. Perhaps one might say here, as we said in commenting on the previous volume, that there is too much discussion and not enough of definite opinion. Yet it must be allowed that it requires considerable self-confidence to write dogmatically upon rheumatism. Dr. Howard appears to give in his adherence to a neuro-humoral view of rheumatism. He believes in the salicylates, and rightly inculcates their value in large doses in chronic rheumatism. He inclines to the neurotic view of the pathogeny of rheumatoid arthritis. It appears to us that he lays rather too little stress upon the value of electricity in rheumatic complaints. Dr. Draper's article on gout is a clear and scholarly presentation of this subject. He recommends a nitrogenous diet in the gouty dyscrasia. Dr. Jacobi's learned article on rachitis is concluded with an interesting description of the best methods of feeding infants. The author condemns infant foods entirely, and recommends the familiar oat-meal and barley-water diluents. Dr. Jacobi believes that small doses of phosphorus are useful in rickets. Dr. Tyson gives us, on the whole, a very good monograph on diabetes mellitus. This includes the description of a number of tests for sugar and several diet-tables that will be found useful. The description of the clinical history of diabetes is somewhat meagre, especially as it is well known that the disease has several somewhat distinct types. The loss of the tendon-reflexes and the peculiar relations of diabetes to tabes also do not receive notice. Dr. Welch's articles upon ulcer of the stomach, cancer of the stomach, hemorrhage from the stomach, dilatation of the stomach, and minor organic affections of the stomach, are among the best in the book, particularly from the pathological point of view. A large number of valuable statistics and other data have been collected, so that the articles have more of freshness and originality than is the case with many of the other contributions. Of the articles on diseases of the intestines, by Dr. W. W. Johnston, Dr. Lewis Smith, Dr. Wales, Dr. Whittaker, Dr. McGuire, and Dr. Atkinson, we have not space to speak. Dr. Alonzo Clark's article upon peritonitis will be read with interest. It is perhaps the best monograph that has come from Dr. Clark for a long time. Dr. Bartholow's articles upon diseases of the liver are written in a clear and attractive style, and together furnish a very complete account of the disturbances of this important viscus.

THE RATIONAL TREATMENT OF RUPTURE. A Study of the Causation, Pathology, and Varieties of Hernia. By DR. A. H. PARKER. Chicago: Shea, Smith & Co. 1885.

A BOOK describing a form of truss devised by the author for the relief of inguinal, femoral, or umbilical hernia.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 13, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

REPORT OF THE COMMITTEE ON MICROSCOPY.

DR. WALDSTEIN reported that the specimen presented by the President at a former stated meeting was a tubercular testis; also that the small tumors presented by the President, removed from the antitragus, were cartilaginous growths. In both instances the diagnosis was corroborated by the microscopical examination.

Dr. Waldstein also remarked that since the presentation of the latter specimen he had seen two children, one six and the other three or four years of age, in whom there were small cartilaginous growths before the antihelix, but not sufficiently large to be of special importance.

DR. A. G. GERSTER presented a specimen of

PERIOSTEAL SARCOMA OF THE THIGH,

removed by amputation from a girl, twenty-six years of age, who about three years ago fell down stairs, but was not aware, at that time, that she received any severe injury. From that date, however, she began to notice a slight disturbance of the function of the knee-joint, apparently due to the development of a swelling corresponding to the external condyle of the right thigh. The disturbance of function was not so much from pain as from mechanical difficulty in bending the knee, especially in ascending stairs. When she presented herself to Dr. Gerster he found a hard, non-movable tumor occupying the site of the external epicondyle. Puncture with the hypodermic needle was negative, and the tumor gave no parchment-like crackling sensation, but it was noticeable, at one portion in the popliteal space, that it was rather movable. Dr. Fluhrer and the other surgeons regarded it as possibly a group of infiltrated glands. The shaft of the femur corresponding to the internal epicondyle was perfectly intact, and the entire tumor was superimposed upon the cortex of the bone. If it had been a central sarcoma the tumor would have been spindle-shaped. Another interesting feature of the specimen was that the movable mass regarded as lymphatic glands had been demonstrated to be such as was diagnosticated. The new growth was confined strictly to the diaphysis.

Dr. Gerster assumed that it was malignant in character, but he invited Dr. Markoe, who had had a large experience in the observation of the class of tumors known as enchondromata, to see the patient with him, whose opinion, after a complete examination, was rather strongly in favor of the tumor being an enchondroma. He thought they might have to deal with one of those osseous growths with a pedicle and a mushroom-shaped top which could be easily chiselled away and the limb of the patient saved. The puncture, however, made it evident that the tumor had a soft centre, and the fact that there was in the inguinal region of the affected side a roup of glands somewhat more enlarged than those on he opposite side, with the additional fact that the genral condition of the patient had suffered severely, led r. Gerster to regard it as undoubtedly sarcomatous, d amputation was at once performed.

Dr. Gerster also presented a specimen of

MYXO-SARCOMA OF THE TESTICLE,

noved from a patient thirty-two years of age. The use was obscure, as there was no history of traumatism inflammatory process. The tumor was about the size his fist.

UNDESCENDED TESTICLE—HERNIA—OPERATION—CURE.

Dr. Gerster also presented a specimen removed from a man, thirty years of age, who since childhood had noticed only one testicle in his scrotum. When he was about eighteen years of age a hernia appeared, and when an attempt was made to wear a truss the patient found that the pressure of the instrument caused excruciating pain, whereupon the truss was removed, and the hernia since that time had developed into large proportions. Gradually during the last four or five years a rather hard body had descended into the inguinal region and vicinity of the external abdominal ring, alongside the hernia, painful on touch, and if he kept on his feet attending to business the pain would become so severe as to compel him to stop work. Dr. Gerster found on examination that he had to deal with an undescended testicle, and also a hernia in which there was a considerable portion of omentum which could not be replaced completely. Consequently he concluded that the omentum had become attached to the hernial sac by inflammatory process. He advised the patient to submit to a radical operation on the hernia, which was performed in the Mount Sinai Hospital, and, when the sac was exposed, it was found that external to it there was situated a body composed of fatty tissue, resembling a lipoma, containing in most of its parts a rather small proportion of connective-tissue elements, except at the upper extremity, which was close to the inguinal canal, where a rather hard mass of tissue was found which appeared to him as possibly sarcomatous in character, but it was found to be composed principally of the remains of an inflammatory process.

The sac was opened, and it was found that it was occupied by a large portion of omentum which was adherent almost the entire length of the sac in the inguinal canal It was dissected up without much trouble, deligated in several pieces, cut off, and the stump placed in the abdominal cavity. The sac was transfixed with catgut suture in a way which might be compared to the string of a purse; it was tied, and then cut off, and the stump was placed in the inguinal canal. The pillars of the external ring were brought together with stout catgut, leaving a little slit for the exit of the spermatic cord. The atrophied testicle was removed.

There was no elevation of temperature after the operation, and the entire wound healed by first intention. On the fourteenth day slight hemorrhage occurred when the patient attempted, contrary to orders, to lift a body of some weight. The hemorrhage was due apparently to the severing of the deeper portion of the newly formed cicatrix. A slight sinus remained which required slitting open, but which then healed readily, and the patient was dismissed cured, with the advice to wear a light truss.

Dr. Gerster believed that the radical cure of inguinal hernia was doubtful, but at the same time the operation does some good, as it enables the patient to wear a truss, perhaps in a way which will prevent the return of the hernia. The so-called radical cure by means of injections of astringent solutions, Dr. Gerster thought did not deserve the name of radical cure.

RETENTION-CYST OF THE SUBMAXILLARY GLAND.

Dr. Gerster also presented a mucous cyst, removed from the floor of the mouth of a man twenty-six years of age. It had been diagnosticated as a ranula, and an incision was made into it from the oral cavity by another surgeon. It was a large tumor when filled, and interfered seriously with deglutition and even respiration. The tongue protruded from the mouth, became dry, and the patient was unable to attend to his business on account of the unsightly appearance of his face. Incision and drainage practised by the former surgeon did not result in cure. The tumor collapsed but the drainage-tube could not be retained, and was removed, and the wound healed; but a short time afterward a reappearance of the tumor was noticed, whereupon he presented himself at Dr.

Gerster's clinic, when he found a fluctuating tumor from which he withdrew fluid which proved to be mucoid in character; a turbid liquid containing a rather large proportion of pus-cells. Extirpation was advised, and was performed in October in the Mount Sinai Hospital, and the tumor was found to be a retention-cyst of the submaxillary gland. The specimen showed the body of the gland, and the sac of the cyst formed a continuation of the glandular capsule. One peculiar fact concerning the tumor was that it grew toward the median line, thus producing the impression that they might have to deal with a dermoid cyst. The dissection for its removal extended downward to the hyoid bone. The oral cavity was not invaded, as it was possible to exsect the sac of the tumor from the old cicatrix left by the preceding operation of tapping and drainage. This rendered the case much simpler than it otherwise would have been. The submaxillary, the facial and the lingual arteries were deligated before removal of the cyst.

THE PRESIDENT said, concerning radical cure of hernia, that Dr. Gerster's experience was the same as his own, with regard to the result of these operations. He had operated about twenty times. He knew he had cured one patient, and there was another in whom he had suspected a cure had been effected by Heaton's operation, performed on a boy ten years of age. It must be admitted, however, that a cure can frequently be effected in a patient of this age by wearing a truss, which exerts a sufficient degree of pressure. He always advised patients to wear a truss after any operation for radical cure has been performed.

DR. CHAS. H. KNIGHT presented a specimen of

FIBROMA OF THE VOCAL CORD, REMOVED WITH MACKENZIE'S FORCEPS,

accompanied with the following history:

J. M——, aged fifty-seven, iron moulder, family history good. Patient has always been well. Two years ago first noticed trouble in speaking; voice became husky and occasionally "cracked;" unable to sing as formerly. Dry cough. No history of any treatment.

With the laryngoscope a neoplasm the size of a French pea was seen at the junction of the anterior and middle thirds of the right vocal cord, perfectly round and smooth, of a livid red color, in striking contrast with the white vocal cord to which it was attached. It had a very short pedicle and during phonation it rested between the cords, being attached just at the margin of the right. There was a moderate degree of laryngitis, the left cord was almost normal, the right being especially congested, not in the vicinity of the growth, but at its posterior extremity.

The larynx was very capacious and tolerant. After thorough spraying of the fauces and larynx with a four per cent. solution of cocaine hydrochlorate, two unsuccessful attempts were made to remove the growth with Mackenzie's laryngeal forceps. One week later the growth was removed with the forceps on the second trial. There was very little hemorrhage. Six days after the operation the vocal cord was found to be perfectly smooth and normal, with the exception of slight congestion. The voice was almost natural and the patient said he had even been able to sing. It has since been learned that the patient had been under treatment for nearly three months, and that several attempts had been made to remove the tumor with chromic acid, with forceps, and with the sponge probang by the method of Voltolin's. The specimen was referred to the Committee on Microscopy.

DR. T. MITCHELL PRUDDEN presented a specimen which illustrated

CONGENITAL ABSENCE OF THE LEFT KIDNEY.

The specimen was removed from the body of a man twenty-two years of age, who had given no symptoms of renal disease, and who died of *phthisis pulmonalis* and *tubercular meningitis*.

On the left side the supra-renal gland was in about its normal position and was somewhat broader than usual. The left kidney and ureter were absent, there being not even a rudimentary trace of those parts. There was no left renal artery.

The right kidney was moderately enlarged, measuring twelve centimetres in length, and was a little thicker than normal. The right ureter was slightly wider than normal.

There were no other malformations in the body.

Microscopically the right kidney is normal in structure. The cortex tubules and glomeruli are plump and large, but without careful measurements it would not be possible to say that they are actually hypertrophied.

The case seemed to him worthy of presentation and record, not only because it was an excellent example of this form of malformation, but because, owing to the greater frequency of the operation of removal of the kidney in late years, a more exact statistical knowledge of the frequency of this malformation was for obvious reasons desirable. Up to 1883, according to Guttmann, there were within twenty-five years about seventy cases on record in which one kidney was entirely absent or represented by a mere rudiment.

DR. WESLEY M. CARPENTER remarked that two or three years ago he saw in the post-mortem room at Bellevue Hospital at least three cases in one winter with only a single kidney present. If memory served him correctly, one of those was an operation case, in which the only kidney the patient had was removed. One specimen, brought to the Wood Museum, was removed by Dr. Welch from the body of a late distinguished surgeon of this city. He also had in his collection a single kidney which, at the time of removal, weighed twenty-four ounces, and which was the seat of simple parenchymatous nephritis. He had not seen cases of single kidney prior to nor since that date, covering a period of twelve years; thus showing that their frequency was not very great.

THE PRESIDENT remarked that he once directed considerable of his attention toward the viscera of the abdomen with reference to abnormalities affecting the arteries, and of the many bodies which he examined for this purpose, he had no recollection of encountering one in which there was only a single kidney.

DR. W. P. NORTHRUP said that out of a thousand autopsies made on babies he had not encountered one in which there was only one kidney.

DR. GERSTER said that, among the first operations which he performed in this country, was one on a child with imperforate anus. During the operation he encountered a hard body which resembled in appearance a portion of intestine, and it was incised and urine came from the bottom of the wound. The child died, and it was found that it had but one kidney. The explanation of the case was found in the fact that one ureter was distended so much that it resembled a small intestine in size and in thickness of its walls, having been occluded where it should have entered the bladder.

ACUTE MILIARY TUBERCULOSIS.

DR. L. EMMETT HOLT presented the lungs, liver, kidneys, and spleen of a male child four months of age, which died at the New York Infant Asylum on January 8th.

The parents and other child were healthy, and no history of tuberculosis could be traced in the family. The child was the smaller of a pair of twins, and had always been plump and well nourished, being nursed at the breast.

The child had symptoms of an ordinary mild bronchitis for a week or ten days prior to January 4th, when its first marked rise of temperature occurred, it reaching 102°. Up to this time it had not been above 99°. With the fever all the symptoms were much aggravated. The respirations were 64 and the pulse 180. There were

now the signs over the whole chest, the signs of bronchitis affecting the larger and medium-sized tubes.

The temperature rose the next night to 103°, and on the two succeeding nights to 105° and 104° respectively. On the morning of January 7th, the child was much better in its general symptoms. The temperature had fallen to 100°, the respirations to 60, and the pulse to 160. A small spot of bronchial respiration was found at each extreme apex behind, but no dulness and no signs elsewere in the lungs of consolidation. The râles were less numerous. The case was regarded as one of severe bronchitis, going on to broncho-pneumonia. Very unexpectedly it grew worse, and died the next morning, January 8th, after four days of febrile symptoms.

The autopsy was made thirty-two hours after death. Body plump and well nourished. Brain carefully examined, but no tubercles found anywhere, and no signs of disease. Thorax: There were no pleuritic adhesions. Both lungs showed widespread tubercular changes. At the extreme apex, and along the posterior borders of both sides there was a narrow strip of consolidation which widened out in the lower lobes to involve perhaps one-third the lobes. On section these consolidated portions were found studded with miliary tubercles. The rest of the lungs were pretty thickly sprinkled with tubercles, the surrounding lung tissue being, for the most part, healthy in appearance. There was no lymph on the pleura anywhere. The bronchial glands were enlarged to the size of an ordinary bean, but not cheesy on section. No tubercles were seen in the pericardium. The liver showed a small number of tubercles scattered over its surface, and was slightly fatty. The spleen weighed one ounce and a half more than double the ordinary size. It was studded with miliary tubercles, and had many round cheesy masses on its surface from one to two lines in diameter. The kidneys presented nothing abnormal except a very few tubercles on their surface. Mesenteric glands slightly enlarged, not cheesy. No tubercles seen in the peritoneum.

The case was an illustration of what is not at all infrequently seen, that a child, previously healthy, may die unexpectedly from tuberculosis, where neither the symptoms nor physical signs, during life, have given the slighest reason to suspect its existence.

DR. W. P. NORTHRUP presented a specimen with the following history:

DIPHTHERIA—CROUP—O'DWYER'S TUBE—DOUBLE PNEUMONIA—DEATH.

The patient was an inmate of the New York Foundling Asylum, aged three and one-third years, female.

Previous to present illness her condition was good, no previous disease. The history is as follows:

December 24th.—Croupy cough. 8 P.M.: Pulse, 138; respiration, 20; temperature, 103° F.; moderate obstruction in respiration. 10.30 P.M.: Marked obstruction, very restless, coughed up membrane. Dr. O'Dwyer inserted his croup tube. (Tube here shown to the Society.) Ten minutes later patient sleeping quietly. All obstructions gone, tube causing less irritation than usual.

December 25th.—Condition good. No dyspnœa. Takes food well. A.M.: Pulse, 168; respiration, 28; temperature, 103° F. P.M.: Pulse, 180; respiration, 36; temperature, 104$\frac{2}{10}$° F. Coughed up membrane.

December 26th, 1.30 A.M., twenty-seven hours after insertion, tube removed. 3 A.M.: Marked obstruction again, croupy cough and respiration. 8 A.M.: Pulse, 178; respiration, 42; temperature, 104$\frac{4}{10}$° F.; albuminuria, thirty-three and a third per cent., by bulk.; no casts. 6 P.M.: Severe paroxysm of dyspnœa. 6.35 P.M.: Marked obstruction, cyanosis, restlessness.; tube inserted by Dr. Dillon Brown, the house physician—prompt relief. 7 P.M.: Pulse, 168; respiration, 44; temperature, 103$\frac{8}{10}$° F.; quiet, color good, bright, bronchial râles both sides.

December 27th.—Slept well. Condition best for three days. Cheeks flushed, nostrils dilating. 6.30 P.M.: Pulse, 168; respiration, 48; temperature, 104$\frac{6}{10}$° F.; asleep for first time to-day; pus and fibrin exudate on both tonsils for the first time. 9.45 P.M.: Tube removed, obstruction marked. Tube was removed to see if possibly there might be some laryngeal obstruction—tube quite clear. 10.15 P.M.: Tube reinserted. Patient continued to fail rapidly with symptoms of pneumonia, and died quietly at 10.30 P.M.

Autopsy, December 28, 1885. Body well nourished. Pharynx: Pseudo-membrane on tonsils and posterior wall. Larynx, trachea, bronchi, to the finest possible to trace, show a thick tenacious, continuous, hollow cast of pus and fibrin exudate. This is the most tenacious and extensive ever seen at asylum dead-house table. Lungs: Extensive pneumonia of both; color mahogany, punctate hemorrhages into visceral pleura. Bronchial glands enlarged and dusky, firm. Heart normal; muscle teased fresh, no degeneration of its fibres. Liver and spleen normal. Kidneys: Moderate parenchymatous change. Stomach and intestines normal.

In presenting the tube developed by Dr. O'Dwyer, it was not the purpose here to give his complete records, but to speak casually of his last twelve cases at the New York Foundling Asylum. In all there was albuminuria; in all the tube was put in and relieved promptly the laryngeal obstruction. In all it was withheld till the signs of urgent dyspnœa were present, viz., cyanosis, restlessness, marked recessions on inspiration. This was to place it on a footing with tracheotomy, a later resort. Three of the twelve have recovered. One other lived to the sixteenth day, and on autopsy, tuberculosis with recent pneumonia was found.

Certain questions will certainly arise, and the answers in anticipation may be summarized as follows: The tube has never failed to relieve laryngeal dyspnœa. There is no ether, no wound, no shock. To insert the tube requires but a few seconds. The tube cleans itself. It is so made as to be coughed out if, by chance, any membrane plugs it from below. This has occurred. In a case of Dr. Northrup's in private practice, the tube was removed by Dr. O'Dwyer after fifty-eight hours, and found entirely clear.

The insertion of this tube requires some manual dexterity. Every practitioner will agree to pass a catheter into the larynx, but this is less difficult. It does, however, require practice. In conclusion: "To those who remember their first experience in taking care of a tracheotomy case after the operation, the continuous watching at the bedside, their constant manipulations with feather and solvents and inner tube, their continual anxiety, I may say that in this simple device the patient is relieved, and the doctor's life is not quite miserable."

The following is a cursory survey of sixty-one recorded cases of children dead of laryngeal diphtheria or membranous croup, showing extent of pseudo-membrane:

Extending from pharynx to finest bronchi, 22; pharynx to bifurcation of trachea, 9; larynx to first division bronchi, 21; larynx to second division bronchi, 4; larynx to fourth division bronchi, 3; pharynx and trachea, 2; croup first symptom, 49; membrane in pharynx first, 12; pneumonia occurred in 44.

DR. C. H. KNIGHT asked if the tube had been known to produce erosion of the vocal cord.

DR. NORTHRUP said the rule at the Asylum had been to remove the tube at the end of twenty-four hours, and allow the child to cough and clear out the trachea, and then put the tube back. In one case in which it was allowed to remain in position nearly all the time for four days there was a slight superficial rubbing off of the epithelium, but he had never seen any ill effects produced on the vocal cords as the result of the wearing of the tube; the slight erosion occurred at the end of the tube.

DR. HOLT asked how long the tube had been allowed to remain.

Dr. Northrup replied that in one case it was permitted to remain about one week, and without any detriment whatever.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 4, 1886.

Abraham Jacobi, M.D., President, in the Chair.

The Corresponding Secretary announced the death of

ASHBEL SMITH, M.D.,

of Texas, a Corresponding Fellow of the Academy, which occurred on January 21st, of pneumonia, in the eightieth year of his age. He held prominent positions under President Houston, when Texas was a republic, and was the most eminent medical man in the State.

Dr. D. B. St. John Roosa read a paper entitled

LIMITATIONS IN THE VALUE OF GLASSES FOR THE IMPROVEMENT OF VISION AND THE RELIEF OF DISEASE,

in which he first referred to the system of test-letters presented to the medical profession in 1854, in England, by Alfred Smee, and in Germany by Edouard Jaeger.

This was the first attempt to arrange an accurate method of estimating visual power. But these were very insufficient, and afterward came Snellen's test-types, which virtually solved the problem of making a register of visual power.

With Jaeger's test-types, which are still used as the standard test of capacity to read, and Snellen's letters for the determination of vision at twenty feet, about as accurate an account as is necessary of a given person's vision can now be given.

The ophthalmoscope was invented in 1851; yet, as late as 1854, little more than mention was made of the instrument in text-books, as well as of the necessity of the correction by test-glasses of the numerous anomalies of refraction and accommodation. Indeed, all this sprang from Helmholtz's discovery. Without the ophthalmoscope the determination of the refraction with accuracy was impossible.

Donders' great work was made accessible to the English-speaking people, by Dr. Moore's famous translation, in 1864. Through all these stages has come the ophthalmic science of to-day, and now a large part of the time of specialists is spent in adjusting glasses for impaired or weak vision. Beyond this, glasses are worn when there is no evident impairment of sight. Patients suffering from headache or from vertigo are now very often sent to the oculist to determine whether these symptoms may not depend upon a lesion of refraction or accommodation.

But it must be stated that defects of sight are often only one, and sometimes only a temporarily acting, factor in the production of neuroses.

Too much stress should not be laid upon the curative power of the correction of the error of refraction, as we shall often meet with cases that we can with difficulty reconcile with theories of their sole influence, or that of a want of equilibrium of the ocular muscles.

Blepharitis ciliaris, styes, epiphora, have also come to be considered by many authors as intimately associated with, if not caused by, optical conditions of the eye, and one writer, at least, goes a step beyond anything as yet indicated, and considers the eye as a prolific source of reflex irritation. This writer inquires "if an irritation originating in an injured or degenerated eye may also give rise to disturbances in distant organs—for instance, the heart, the kidneys, or the muscles of the extremities"—and he answers this inquiry in the affirmative and cites illustrative cases which are thought to prove this. Neuralgia, chorea, insomnia, and epilepsy are diseases which the writer just quoted enumerates as those which may be caused by "difficulties in performing the function of sight."

All this is far beyond what Donders claimed for spherical or cylindric glasses when he issued his book. Donders recommended glasses for hypermetropia, astigmatism, and asthenopia, as well as for myopia and presbyopia, and Graefe made great use of prisms for the correction of muscular asthenopia dependent upon insufficient power of the internal recti; but neither of these men appears to have dreamed of glasses as a cure for headaches, epiphora, epilepsy, chorea, or uterine disease—for all of which they are now, in some instances, advised.

It is hard to overestimate the value of Donders' work in tracing the frequent source of asthenopia to hypermetropia. He stopped such practice as division of the external recti to relieve what was supposed to be spasmodic contraction of these muscles. His investigations have permitted thousands of young people to become educated men and women—young people who, before the days of convex glasses for hypermetropia, were condemned to sheep grazing and cattle ranches, without the benefit of light reading.

With a full appreciation, then, of the value of glasses in the improvement of vision, and even in the relief of disease, Dr. Roosa proceeded to speak of some of the limitations in their value, which prevented him from believing that the whole domain of reflex disease comes naturally under the care of the oculist, or that even all cases of apparently pure and simple asthenopia may be cured by glasses. He gave a series of fifteen cases, taken from his note-book almost without selection, which illustrated his subject, and which he hoped had been made clear enough to convey to the minds of his hearers the working theories under which he had been led to prescribe glasses. He could not accept all that was claimed by some authorities on the one hand, while, on the other, he feared that even after these years since the publication of Donders' work, the whole profession was not fully alive to the value, especially in cases with symptoms referred to the head and eyes, of properly adjusted glasses.

Uterine asthenopia, or the asthenopia so often found in women suffering from serious uterine disease, he had never been able to materially alleviate. Neither had he seen any benefit, other than very temporary, in the correction of trifling errors of refraction in neurotic hysterical subjects; nor from the weakness of ocular muscles, so often one of the early symptoms of locomotor ataxia.

That glasses will cure organic disease, or that the want of them will allow it to occur in parts remote from the head, he was not yet prepared to believe, and yet errors of refraction and accommodation are sometimes the cause of serious functional disturbances beyond those of vision; still, hypermetropes may live to become presbyopes without asthenopia. Only when the failure of accommodation occurs from senile decay will they become aware, by the need of very strong convex glasses for close work, and the failure of distinct vision also, that they started in life with eyeballs of less focal power than many of their fellows. Some myopes go through life without ocular symptoms, while a long eyeball in others becomes a prolific source of evil.

While the correction of errors of refraction and accommodation, and the unburdening of overloaded ocular muscles, will do much to alleviate the asperities of human existence, these things are not as yet a panacea even for neuroses, much less for inflammatory diseases. In our hopes for cure in employing these methods, we still require to avoid scepticism on the one hand and excessive confidence on the other. *Medio tutissimus ibis.*

Dr. David Webster accepted all of Dr. Roosa's statements, and regarded his contribution as one containing a most excellent picture of the every-day work of ophthalmologists. Nearly all persons have some error of refraction; probably not more than half a dozen in one hundred have perfectly normal eyes. Why, under the same ocular conditions, some persons need glasses and others do not, probably depends, in most cases, upon the general condition of the person. He believed, with Dr.

Roosa, that there is a limitation to the value of spectacles, and that such affections as cataract, glaucoma, opacity of the cornea, diseases of the lids, etc., cannot be cured by glasses, as had been claimed by some doctors; that is, according to the statements made by the patients.

With regard to reflex neuroses, he had seen many patients cured by division of ocular muscles and the proper adjustment of glasses, and others relieved by the use of atropia and glasses.

Dr. Webster recalled cases of functional nervous disturbance in which the patients had been relieved by the use of prisms. In one case the patient suffered almost constantly from headache and other nervous symptoms, and he found insufficiency of the *externi* for distance, with a slight degree of hypermetropia, $\frac{1}{111}$. He ordered + 72 spherical, with a prism of 1° base toward the temple, over each eye, and to his surprise and gratification, the patient was relieved at once, and had worn glasses ever since. He had also used the Faradic current, as an adjunct, with benefit.

Dr. C. S. Bull said that his views coincided with those set forth by Dr. Roosa.

Dr. Gruening had frequently prescribed ordinary plain window-glass for the good eye, and ground for the deflected eye, in cases of dizziness and perhaps diplopia, and with benefit. Many such cases were ataxic, and the neurologists did nothing for the double vision.

Dr. W. O. Moore referred to a case of epilepsy which illustrated the limitation in the use of glasses.

Dr. R. W. Amidon agreed with Dr. Roosa concerning the universal application of glasses for neuroses, and thought that, perhaps, he would limit their use even more strictly. The use of window-glass for diplopia, under the circumstances mentioned by Dr. Gruening, had long been practised by neurologists.

With reference to headache, he had found that the frontal was very likely to be associated with errors of refraction, while the occipital came more frequently from insufficiency of ocular muscles.

He had seen wonderful results follow constant and temporary use of prisms, especially in cases of insufficiency of the interne muscles.

Dr. Roosa said that he had been pleased to hear that those who had participated in the discussion, both oculists and neurologists, entertained substantially the same doctrine which he had advocated, and especially so because they had been accused of falling behind the age in their appreciation of what can be done with glasses for the relief of human ills. He was unwilling to admit that there was any new pathological fact, or therapeutic agent, permanently successful, which was unknown to men working in the regular way in these two departments of medicine.

Dr. H. G. Piffard then exhibited

A NEW ELECTRIC LIGHT,

which was manufactured by the Galvano-Faradic Company, and was portable, fairly constant, and could be obtained at a moderate expense.

The Academy then adjourned.

Ambulance and Hospital Huts (Döcker's System), Copenhagen.—As may be known to our readers, a prize of 5,000 francs was offered by the Empress of Germany, at the International Competition of the Red Cross in Antwerp this year, for the best constructed ambulance hut. The special committee finally awarded the prize to the Danish Portable Döcker Huts made in Copenhagen. These huts are built of wood, so prepared as to be both water and fire proof; they are easily taken down and put up, being at the same time strong, and are portable; and can be easily cleaned and disinfected when necessary. The air space allowed per bed is from 12,836 to 14,170 cubic metres. They can be used singly, or several placed together, so as to form a larger building.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ENTERIC FEVER AT SUAKIM—DISCUSSION AT THE MEDICAL AND CHIRURGICAL SOCIETY—THE SURGICAL TREATMENT OF ACUTE NECROSIS—HUNTER'S HOUSES AT EARL'S COURT AND WINDMILL STREET—A NEW VIEW OF INFLAMMATION—A PRIVATE MEDICAL SCHOOL—THE COLLEGE OF SURGEONS.

London, February 20, 1886.

The last meeting of the Medical and Chirurgical Society was entirely occupied in discussing the subject of enteric fever, the so-called typho-malarial fever, and their mutual relations. The discussion was based upon a paper read by Dr. J. E. Squire, and having for its title "Enteric Fever at Suakim, with some Cases of Malarial Enteric or Typho-malarial Fever." The author, a young London physician, had charge of a division of the Base Hospital at Suakim, and had observed eighty cases of fever. Seventy were of the ordinary enteric fever type, this being verified by necropsies on two cases. Of the remainder, some were so modified by climatic causes as to deserve the name of malarial enteric. Two or three showed stronger evidence of malaria. In one of these, which was believed to be enteric during life, no enteric lesions were found post-mortem. Dr. Squire thought that the term typho-malaria might be restricted to such cases. In two of the fatal cases subconjunctival or subcutaneous hemorrhages occurred. These were not due to scurvy, as the troops had fresh meat and vegetables. There was no typhus. Diarrhœa was a marked symptom in all cases of fever. As regarded the causation of the enteric fever, he thought the disease was imported from Cairo and spread by aërial infection. The exclusive use of condensed water for drinking and cooking purposes excluded water as a source of infection. The author concluded by pointing out that, contrary to the theories of some Indian and army medical authorities, the seasoned troops were attacked earlier than those unused to tropical climates, and the mortality was not higher among the younger soldiers.

Several medical officers belonging to the services were present and joined in the discussion. Surgeon-Major Meyers was inclined to think dysentery was at the bottom of a good deal of the fever at Suakim. Surgeon-General Marston maintained that recent arrival in a tropical country increased the susceptibility to enteric fever. He did not think there was any evidence of typho-malarial fever being a distinct disease, though, of course, a malarious subject might be attacked with typhoid fever and exhibit symptoms of both diseases.

Dr. Drewitt suggested that we had to do with a chemical union of typhoid and malaria and referred to some narratives in Dr. Whipham's "History of the American Rebellion." Dr. S. Thomson believed that the form of enteric was determined by the nature of the soil. He distinguished two types of typhoid: (1) abdominal, when water was the source of the poison; (2) diphtheritic, when the disease arose from inhaling sewer-gas. In the latter case the throat was more affected, and nervous symptoms were prominent. Brigade-Surgeon Don reiterated the military view, that enteric fever can originate *de novo*. Brigade-Surgeon Gribbon had no doubt that the cases at Suakim were enteric. Suakim, he said, was not a malarious place. Dr. Broadbent then spoke at some length. He said that the fact of the occurrence of enteric fever at certain ages and on recent arrival in a country, taught nothing as to the specific nature, or otherwise, of the disease. He was convinced that there was some other fever met with in tropical and sub-tropical climates, distinct from, though simulating to a certain extent, the course of typhoid fever. The second tropical fever could hardly be enteric fever modified by climatic and other con-

ditions. Experience had shown that we required some distinct name to express this second affection, and, perhaps, "typho-malarial" was the best term for a fever which was even more protean than enteric fever in its clinical course.

A brief but animated discussion followed the reading of a paper, at the last meeting of the Medical Society of London, by Mr. Bernard Pitts, Assistant Surgeon to St. Thomas' Hospital, on "Subperiosteal Section in Cases of Acute Necrosis." Notes of two cases were read. In the first, the patient, a girl of fifteen, was admitted with pain and swelling in the lower end of the right tibia. The patient was very prostrate and had a temperature of 102°. An incision had been made above the ankle, giving exit to a large quantity of matter. This was freely enlarged, and the patient's condition at once began to amend. But the improvement did not continue, and a month after admission a further operation was undertaken, and the lower two-thirds of the tibia removed, when it was found extensively necrosed. The epiphysis was almost entirely destroyed. Care was taken to save the periosteum. The astragalus was scraped and the epiphyseal remains removed. Some months later a small residual sequestrum was removed and a sinus in the foot was opened. The patient finally did well, and possessed in the leg a very useful limb, with but slight shortening. In the second case, a boy aged seven, the site of the disease was the same. An incision over the internal malleolus allowed the escape of some exudation. Later on, separation at the epiphysis was detected and two and a half inches of the tibia were excised. The bone was quickly regenerated and the patient was up and about in two months. When seen some months later, the limb presented but little deformity or shortening. Mr. Pitts said he divided cases of acute necrosis into five classes, as follows: (1) Acute necrosis of the entire shaft, with separation at the epiphyses; (2) where one or both joints are implicated also; (3) limited necrosis; (4) acute necrosis of either end of a long bone; and (5) acute necrosis with total destruction of the epiphysis and involvement of the joint. As to the treatment which, in his opinion, was advisable in these several cases, he said that in (1) the dead shaft should be removed. In (2) early interference is more imperatively demanded, but in some cases amputation is needed. In (3) we might usually give time for complete separation of the sequestrum. The second case he had described was an example of the treatment to be adopted for (4), and the first case an illustration of (5) and its treatment.

Mr. Clutton said Mr. Pitts' first case proved that the surgeon need not hesitate to remove living bone with the dead, for a good result could still be obtained. Mr. J. H. Morgan and Mr. Walter Pye narrated similar cases. Mr. Pearce Gould rather opposed the too early removal of sequestra, for much new bone might be removed. The final result of many cases showed that the sequestrum was frequently very small, compared with what we might have expected.

Another interesting historical memento is about to disappear. I refer to John Hunter's residence at Earl's Court. The house and grounds have been acquired for building purposes, and Hunter's former residence is to be pulled down forthwith to make way for some dozen modern flimsily built stucco villas. The old materials are to be sold by auction in a few days, and by the time these lines appear in your columns the British workman will have done his best to obliterate the traces of Hunter's presence. Earl's Court is now really a part of London, being within an easy walk of the museums at South Kensington, but at the time the great anatomist lived there it was different. The neighborhood was then unbuilt on, and Hunter's mansion, with its extensive grounds, stood adjoining the fields and within easy reach of the open country. Here it was that Hunter kept his famous menagerie of wild beasts. Curiously enough, Hunter's town residence is also at present under sentence of demolition, having been acquired by the Metropolitan Board of Works in connection with the street improvements now being carried out by them at the West End. This stands in Great Windmill Street, just at the top of the Haymarket, in a position which no modern surgeon would select as his residence. The street, however, is one of many which have fallen in status during the last fifty years. The house is a very good one, being a large double-fronted building of good elevation. Here it was that Hunter lived and practised for years. His private medical school was at the rear of the house, being, however, also approached separately through a narrow paved walk alongside the house, with a gateway in the street. The private house has been for years a French restaurant, in which I have ere now eaten a humble lunch. The medical-school premises have also undergone conversion, having been used as printing premises for twenty years or more. One of our weekly medical journals has been printed there for years. The top floor, a spacious room well lighted by skylights, which was Hunter's dissecting-room, has been used by the printers as the composing-room. I have been over the premises, and it is with a pang of regret I hear of their approaching destruction.

We are often reminded that, even in the most familiar fields of research, the ground is by no means exhausted, but that much rich material still remains to reward the diligent observer who knows how to look for it—and that, too, in apparently the most unpromising situations. Mr. Treves' Hunterian Lectures for 1885 were an illustration of this, and showed that, even on such hackneyed ground as the naked eye, anatomy of the intestinal canal and peritoneum, there remained valuable facts still to be gathered up even in this nineteenth century. Mr. Sutton's recent lectures at the College of Surgeons exemplify the same thing in the sister field of pathology. Inflammation is a subject which scarcely lays itself open to the suspicion of affording anything very striking or novel, but in his second "Erasmus Wilson" lecture, Mr. Bland Sutton brought forward a number of facts, observed by himself and other workers, which enable us to view the subject from an entirely fresh aspect.

Mr. Sutton defined inflammation as "the method by which an organism attempts to render inert noxious elements introduced from without or arising within it." In vertebrata the most important feature in the inflammatory process was the vascular disturbance. What originated this? If we extended our observations to the invertebrata we became quickly impressed with the important functions played by active motile cells. There were three points to which it was necessary to draw attention: (1) The capacity of certain cells to effect a change of place and form. This was an acknowledged fact in biology. Wharton Jones showed in 1846 that the leucocytes of human blood possessed this property. (2) Their power of taking into their interior various substances with which they may come into contact (pigment granules, etc.). (3) The property they possessed of decomposing organic material which had been taken into their interior, or was in contact with their protoplasm. This was termed intra-cellular digestion. Mr. Sutton described in detail numerous observations on this subject by himself and others. Metschnikoff, he said, had shown unquestionably that the wandering cells can digest organic substances. If fluids containing bacteria were injected beneath the skin of bipinuaria and others, or if they developed spontaneously in the wounds of such animals, they would soon be found within the substance of many amœboid cells. In many cases the bacteria lost their motility and became so delicate as scarcely to be visible. In vertebrates, in bacterial affections such as anthrax, the bacilli were taken up by the leucocytes.

Mr. Sutton then referred to a curious phenomenon presented by amœboid cells, viz., that two or more cells fused together to form a larger mass of protoplasm. Such masses were termed plasmodia. Metschnikoff had

watched their formation, and regarded them as equivalent to giant cells. In all cases in invertebrates they had arisen around foreign bodies, and always by fusion of separate cells. There was good reason to believe that giant cells in the higher vertebrata, when they occurred, arose from the fusion of leucocytes. Mr. Sutton referred to the observations of Metschnikoff on the absorption of the tails of larval batrachians. In the early stages numbers of amœboid cells were present within which were seen remnants of nerve and muscle fibres. These cells were in reality leucocytes engaged in devouring the tail of the tadpole, and had thus been named "phagocytes." The same observer had witnessed combats in the daphnia between the white blood-cells and bacteria, and, when one cell was not sufficient to attack the invading bacterium, two or more would fuse together, surround, digest, and thus rid the daphnia of the intruder. Could these facts be applied to mammals? If a rabbit's cornea were irritated, the tissue became red and hazy in a few hours, due to escape of leucocytes from the vessels to repel, or, if possible, to destroy the offending material. Draw a fine thread across the interior of a vein, and leucocytes soon swarmed around it. In tubercle, leprosy, perlsucht, or avian tuberculosis, the characteristic lesions swarmed with bacilli. These were often taken up by cells, and especially by giant cells. These facts seemed to show that in the giant cells we had the counterpart of the fusion of phagocytes, etc., and that it was in reality an effort of the blood-corpuscles to rid the blood of noxious elements. The "osteoclasts" seen in bone undergoing absorption must be placed in the same category.

These observations showed that the process of inflammation was one of normal physiology, but when in excess it came within the domain of pathology. Summarizing the story of inflammation as we read it zoölogically, it should be likened to a battle. The leucocytes were the defending army, the blood-vessels were the roads and lines of communication. In the conflict cells died and were eaten up by their companions. Frequently the slaughter was so great that the tissues were burdened by their dead bodies in the form of pus. These dead cells, like the corpses of soldiers who fell in battle, later became hurtful to the organism they had in life been anxious to protect from harm, for they served as breeding-grounds wherein the bacteria might germinate, and, like a pestilence and scourge, devastate the individual.

A serious accident has befallen Mr. Thomas Cooke at his private school of anatomy. A destructive fire has occurred and utterly destroyed a large number of valuable anatomical preparations representing many years of patient toil. Mr. Cooke's school of anatomy is a modern representative of what was common enough in former days, viz., a private medical school. It is the only representative of such an institution that we have in London, though "Minto House" is a somewhat similar one in Edinburgh.

Since facilities for dissection have been afforded by the passing of the Anatomy Act, dissection has been almost exclusively confined to the dissecting-rooms of the recognized medical schools. Mr. Cooke established his present school—which, by the way, is fully licensed—about fourteen years ago, and has continued to teach practical anatomy, physiology, operative surgery (on the dead body), and other branches of medical science ever since, with popularity and success. His course on operative surgery has received official recognition from the University of London. Many students and practitioners who owe some measure of their success in their examinational career to a course at "Cooke's" will regret to hear of the misfortune which has overtaken their former teacher.

The controversy at the College of Surgeons still, like a wounded snake, drags its weary length along. The members are about to petition the Queen in Council, and the Fellows are "down upon" Mr. Hutchinson on account of his motion to widen the basis on which the Fellowship can be obtained. This proposition appears to please nobody. The Fellows object to the cheapening of their diploma, and the members regard it as a sop at which only a few of them can get a bite.

SKUNK-BITE AND HYDROPHOBIA.

To the Editor of The Medical Record.

Sir: I notice in a recent issue of The Medical Record a communication concerning skunk-bite and hydrophobia. An experience covering several years, while connected with the United States Army in Kansas, Colorado, New Mexico, the Texan Panhandle, and the Indian Territory, has convinced me that the popular impression that the skunk-bite in the sections just named is liable to be followed by hydrophobia is a correct one.

Several instances have come under my personal observation, not only where men have been bitten at night while camped on the open prairie, but where the skunk has invaded tents, and even houses, inflicting the deadly bite upon one or more of the sleeping inmates. The poisonous bite is not always given in anger by the skunk, but the animal, searching for food, gnaws the face or hands of the sleeping person.

Between the North Fork of the Canadian and Fort Supply, Indian Territory, I camped one night with an escort near a house occupied by cattlemen. During the night a skunk entered the house and crawled under the bed, where he remained until morning, when he seized a man's leg as he put his foot out of bed; hydrophobia followed the bite in the man.

When travelling with my family by ambulance, and camping on the open prairie, I was very careful to have the sides of the tent well sodded down at night, and at the tent entrance I tied my dog to protect my family from the intrusion of skunks, more dreaded by me than the rattlesnakes.

I think I may safely state that the general impression is, that the bite of the skunk on our Western prairies is, to say the least, very dangerous.

Hydrophobia exists among these pests to a very considerable extent.

The bite of the rattlesnake is, on the other hand, in my experience, not particularly dangerous. Of course, much depends how and when the bite is given by the snake. If his fang-duct is empty, no poison is imparted; if the poison is absorbed by cloth or other absorbing materials before it reaches the wound, then, too, the bite cannot be dangerous. The snake is not always prepared to bite dangerously. For these reasons it is not easy to determine how fatal the rattlesnake bite may be, but it is generally understood by frontiersmen that the rattlesnake of the great prairies is not a very dangerous reptile, and is honest enough to give fair warning before he strikes.

A friend of mine, in an expedition which crossed the plains in 1867, was bitten by a rattlesnake under the following circumstances:

We were camped that afternoon on the Arkansas River. After supper my friend walked outside the camp for a short distance. He had pulled off his cavalry boots and had on a pair of thin slippers. A rattlesnake bit him, as he was descending a little hill, on the inner side of the right foot. My friend deliberately sat down and shot the snake through the head with his six-shooter, and brought the reptile back to camp. The wound was cauterized, and a large dose of whiskey immediately administered. The patient slept that night very soundly in the ambulance, and the next morning was all right, except for the effects of the large doses of whiskey. No trouble followed from poisoning, and the wound healed rapidly. In this case it is possible that either the poison-duct in the snake was empty, or that the leather of the slipper or the stocking prevented the poison from reaching the

wound. Whiskey on the frontier is the remedy *par excellence* for snake-bites, and it is very frequently taken by many as a preventive, and as such is remarkably popular. Very respectfully yours,

W. THORNTON PARKER.

NEWPORT, R. I., February 20, 1886.'

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 28, 1886, to March 6, 1886.

WILLIAMS, J. W., Major and Surgeon. Ordered for duty as post surgeon, Vancouver Barracks, Wash. Ter. S. O. 31, Department of Colorado, February 20, 1886.

MUNN, C. E., Captain and Assistant Surgeon. Ordered for duty as post surgeon, Fort Cœur d'Alene, I. T. S. O. 31, Department of Colorado, February 20, 1886.

WOOD, M. W., Captain and Assistant Surgeon. Ordered for duty as post surgeon, Fort Walla Walla, Wash. Ter. S. O. 31, Department of Colorado, February 20, 1886.

TREMAINE, WILLIAM S., Major and Surgeon. Leave of absence extended for six months on surgeon's certificate of disability. S. O. 50, A. G. O., March 2, 1886.

MCELDERNY, HENRY, Major and Surgeon. Leave of absence extended for one month. S. O. 49, A. G. O., March 1, 1886.

SPENCER, WILLIAM G., Captain and Assistant Surgeon. Ordered for duty at Fort Yates, Dak. Ter. S. O. 17, Department of Dakota, February 23, 1886.

To be Assistant Surgeons, with the rank of Captain, after five years' service, in accordance with the act of June 23, 1874:

ARTHUR, WILLIAM H., Assistant Surgeon, February 18, 1886. Circular, A. G. O., March 1, 1886.

BUSHNELL, GEORGE E., Assistant Surgeon, February 18, 1886. Circular, A. G. O., March 1, 1886.

BIRMINGHAM, Henry P., Assistant Surgeon, February 18, 1886. Circular, A. G. O., March 1, 1886.

WYETH, MARLBOROUGH C., Assistant Surgeon, February 18, 1886. Circular, A. G. O., March 1, 1886.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 6, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
March 6, 1886.....	2	8	57	4	4	80	7	0
Deaths.								
March 6, 1886.....	3	3	10	4	0.	37	0	0

THE DOSE OF TINCTURE OF NUX VOMICA, according to Dr. Musser, should be from thirty to forty drops for adults from fifteen to forty years of age. Old people should be given smaller amounts.

DEATH FROM EXPOSURE was the verdict recently rendered by a Helena (M. T.) jury on the body of a horse-thief who had been hanged by vigilantes.

DR. MCGILL'S LETTER ON THE HOT-WATER TREATMENT OF WOUNDS.—Dr. Robert T. Morris, of this city, sends a reply to the communication of Dr. McGill in THE MEDICAL RECORD of January 23d, which we are unable for want of space to insert in full. He writes: "Dr. McGill asks for information as follows: 'Where can any modern operator show results equal to those obtained by Alanson in 1779—thirty-five successful cases of capital amputation safely piloted to recovery,' and I would inform him that any work on scientific surgery—Cheyne's, MacCormac's, or Neuber's, for instance—will not only give him statistics of much better work in amputations, but they will show that in all probability the majority of Alanson's amputations were unnecessary operations. Bardenheuer's report (MacCormac's 'Antiseptic Surgery,' p. 29) on the results gained through antiseptic surgery at the College Infirmary in one year runs as follows: Forty-one amputations through bones, 10 amputations at joints, 53 resections, 23 cases of removal of wedge-shaped pieces of bone, 5 operations for badly united fracture, and 1 case of trephining—altogether 133 operations involving bones, without a single death. Cheyne, on page 511 of his work on 'Antiseptic Surgery,' adds together the figures presented by several workers, and shows a list of 1,239 compound fractures treated antiseptically, with but 5 deaths, or less than three-fourths of one per cent. Volkmann reports two deaths among 135 successive compound fractures which he treated antiseptically. One of these deaths was due to delirium tremens, and the other to fat embolism. Schede, at the late Copenhagen Congress, reported 50 successive osteotomies, not done subcutaneously, which healed without the formation of one drop of pus. . . . Here is another quotation from Dr. McGill's letter: 'To some otherwise sane and rational medical scientists Listerism is a veritable *ignis fatuus*.' Mrs. Cadwallader says that we have all to exert ourselves a little to keep sane and to call things by their right names, and it seems to me that *ignis fatuus* is not the right name here, because we have had the thing actually in our possession for several years. Listerism is rather an *ignis fatuus* (if you would accept the term) for the men who have done good travelling in their day, but who are now able to run only in saw-horse fashion. . . .' Another part of the letter reads: 'To that famed and most odoriferous drug—that remorseless exterminator of germs—carbolic acid, supernatural powers are attributed.' This is a little mistake on the part of the writer of the letter. The natural power of carbolic acid to kill microbes is like the natural power of salt to kill grass. Nothing more. . . . Speaking of experience at the St. Francis Hospital of Jersey City, Dr. McGill says: 'Listerism had been given a fair trial—the attention to detail so earnestly enjoined by its originator had been faithfully carried out—but the results were not such as would warrant a continuance of its use. Possibly it may have been due to some fault in my use of the method,' etc. If instead of 'possibly' the author had written *undoubtedly*, he would have struck the nail such a blow on the head that the resounding thump could have been heard from Hoboken to Weehawken. That it is hard for some men to comprehend antiseptic doctrines I have no doubt. The trouble arises from our educational methods in medicine, which develop not so many scholarly scientific men as they do artists—artists of the impressionist school particularly. All men who know how to work antiseptically do so."

THE HARVEST BEGINS.—The Buffalo Medical College graduated forty-three students on February 23d.

A NEW JOURNAL, called *Death*, devoted to suicide, homicide, funerals, etc., is, we learn, soon to be published in Chambersburg, Pa. We presume it will be short-lived.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 12 NEW YORK, MARCH 20, 1886 Whole No. 802

Original Articles.

THE TREATMENT OF VARICOCELE.[1]

BY ROBERT F. WEIR, M.D.,

CLINICAL PROFESSOR OF SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS; SURGEON TO THE NEW YORK HOSPITAL.

IT is not intended to present an exhaustive account of the many methods of treatment that have been resorted to in the cure of varicocele, but rather to give in a brief manner the results of personal experience and observation, especially that obtained since the beginning of what may be called the antiseptic era. Prior to this latter period operations for the relief of varicocele were comparatively rarely adopted, and the employment of suspensory bags and other less reliable contrivances was more largely advocated than now. All the operations in the past and present, however, have had as the end in view either to obliterate the distended veins or to shorten the scrotum and thus effect a more complete support.

In the first category comes primarily the plan of Gagneles who was the first, according to Sédillot, to pass a silk ligature subcutaneously across the scrotum in front of the veins and then back again, through the same skin openings, behind them, and thus to encircle the distended vessels in the subsequent ligation. This we all know was a good method, but the material, silk, was faulty and often provoked and kept up suppuration until it either dissolved or was discharged from the punctures. Ricord endeavored to obviate this by his *serre-nœud*, and passed a double-looped silk ligature behind the veins, and another in front and ran the end of one through the loop of the other so that a running reef-knot was formed, which by traction of an outside horse-shoe ratchet cut through the veins and was then extracted. These were the two best methods in vogue, and the evolution of this idea impelled Mr. John Wood, of London, in 1875, to adopt silver wire with spring pressure to cut through the veins or to temporarily constrict them. This instrument, which is herewith shown, did fairly good work; however, its long arm, which afforded the counter pressure to its spring portion, often embedded itself in the scrotal tissues and gave rise to suppuration and abscess, and the ends of the encircling loop of wire emerging from its one opening, as in Gagneles' method, frequently became twisted and prevented its withdrawal when the surgeon desired it. To meet these objections, after using Wood's instrument a few times, I contrived and used for a limited period a little elliptical spring,[2] to straddle the scrotum that it might pull upon loops like Ricord, but of silver wire; and in order to withdraw them before they had cut entirely through (which, with Wood's instrument and this and others of like design, will take place in from ten to fifteen days), the device of the late Dr. Washburne, of this city, was adopted, to have a third wire passed around one of the loops before it was drawn home, to serve as a retractor. This was quite ingenious and serviceable, but recently I found, to illustrate the old adage, that Tufnell,[3] of Dublin, had made the same suggestion some twenty-five years ago. The further use of silver wire as a means of ligating the dilated veins in a varicocele received a decided advance in the method advocated by Barwell, which, though set forth in 1869[1] by this surgeon, attracted more attention since the publication of his article on the same subject in 1875.[2]

Barwell did away with the projecting pieces of mechanism, and thrust the ends of his wire loop, which was passed in the customary manner, through a perforated plate of metal or hard rubber, and tied or twisted the ends fast to little uprights on the outer side of the shield. These wires could be easily tightened from day to day, if deemed advisable. In a very recent article by this surgeon a *résumé* of 100 cases of varicocele thus treated is given. In 16 there was suppuration, in 71 there were no complications. The duration of the treatment is unfortunately not given.

This plan of operation has been followed with quite satisfactory results by my colleague, Dr. Markoe, who, in seven cases treated by him at the New York Hospital, has had suppuration three times, and the average duration of the treatment has been thirteen days. Dr. Markoe also informs me that his larger experience in private practice has been excellent.

But the use of catgut sublimated or junipered as a ligature for varicose veins was the natural outcome of Listerism, and in 1879 I made my first trial[4] of it in the treatment of varicocele, but had soon unsatisfactory results, in two instances having used, with the erroneous idea that such was needed, the chromicized catgut, which in one of these cases failed to dissolve, and after three weeks of suppuration was extracted, and in the second the ligature came out at the end of sixteen days. Since then I have resorted to it in hospital and private practice twenty-two times with generally a satisfactory result. I regret I cannot tell exactly in how many cases suppuration followed, but this occurred from time to time, and especially was it more apt to follow when two or three ligatures were placed around the venous mass, and most particularly was trouble likely to come if the ligature was placed too close to the testicle. Taking it comprehensively, I feel that one is justified as placing this plan of treatment so far, as one of the best, safest, and quickest in its result, and the more so when its application is confined to tolerably small varicoceles—that is to say, where generally one ligature will suffice; in such, twelve in number, the average duration of confinement was eight days. In six out of these twenty-two cases there was dissatisfaction with the results, because either that the symptoms continued, or that other veins increased in volume, or that the undue size of the thickened tissues failed to please. Two of the six, which were all large varicoceles, submitted with advantage to a subsequent ablation of a part of the scrotum.

An anæsthetic has been seldom administered in this catgut ligation of the veins, and then only at the patient's request. The little operation is generally performed with the patient in the erect position, leaning against the edge of a table or bureau, and, after pushing aside the readily felt vas deferens, an ordinary surgeon's needle[4] armed with a strong sublimated or junipered catgut is thrust through the scrotum behind the bunch of veins,

[1] Read before the Surgical Section of the New York Academy of Medicine, February 8, 1886, in opening a discussion on this subject.

[2] A diagram of which was accorded a place by Bumstead and Taylor in their work on Venereal Diseases, p. 187, 1883. A somewhat similar idea, I have lately learned, was set forth by Dr. O. A. White, in 1873.

[3] Dublin Quarterly Journal, 1861.

[1] Lancet i., p. 711.

[2] Ibid., p. 820.

[3] Girdlestone, in the Australian Medical Journal for December 15, 1879, states that he had similarly used carbolized kangaroo tendon for several years.

[4] Dr. E. L. Keyes recommends the use of Peaslee's ovariotomy needle for this.

which is then loosened from the grasp, and the needle is then carried back through the same punctures, and more slowly and carefully in front of the veins between them and the skin. If a second ligature is deemed advisable, the first is not tied until the second one is passed. The tying is generally finished with the patient lying down, as then the most pain is felt. After the ends of the ligatures have been cut short, a little pull on the skin of the scrotum will cause the knot on one side and the loop of catgut on the other side to sink out of sight, when the needle-punctures are to be dusted with powdered iodoform and a light antiseptic dressing applied. On the third to sixth day the patient can be allowed to go moderately about with the scrotum in a suspensory bag.

Excision of the veins was promulgated by Patruban in 1870,[1] and revived in 1880 by Nebler, as an excellent method in the treatment of varicocele, and five cases were presented by the latter in illustration of his views. He has been followed by Nicaise[2] who advises, as does Nebler, to carefully separate the artery from the veins, a procedure which not only is not at all easy, but is unnecessary, since the artery accompanying the vas deferens communicates with the spermatic at the entrance into the testicle, though Zesas[3] has shown that this inosculation does not exist in dogs, in whom, therefore, ligature of the spermatic veins with the included artery would cause gangrene of the testicle. Richolot[4] also speaks well of excision, and Reginald Harrison[5] varies the operation a little by tying the larger veins separately through an incision and lightly cauterizing the smaller ones by a Paquelin cautery.

Excision is easiest performed by an incision, under cocaine, one or two inches long on the posterior or lateral surface of the scrotum. When the mass of veins is exposed a double ligature of sublimated or junipered catgut is placed around them, about an inch apart, and the included portion cut away with the scissors. A small drain is inserted and the wound is then closed with catgut sutures and a sublimated gauze or peat dressing applied. If a rubber tube is used for a drain (and this I prefer in all cases) it should be removed on the third to fifth day, and the wound will be found tightly healed at the end of a week. Provided the case has been treated by a surgeon experienced in antiseptic measures, the treatment by excision is both safe and expeditious, and is worthy of adoption, particularly in those cases where the size of the varicocele would demand two or three subcutaneous ligatures or where the more radical operation of scrotal amputation has been declined by the patient. This latter operation, *the removal of the scrotum sufficiently to act as a natural suspensory bandage*, was much in use at the New York Hospital during my pupilage there in 1856 to 1860, and for several years prior and subsequent to that time many cases of cures, and almost as many cases of failures, from its use came, either then or afterward, under my observation. The reason for its desuetude was not difficult to arrive at. Like an elastic suspensory the scrotal tissues gradually yielded to the weight of the enlarged veins which were yet distended, and which varied greatly in their blood contents on any exertion. In other words the principal cause of the symptoms was not removed. This operation was brought again into repute in 1871 by the excellent treatise of Dr. M. H. Henry, of this city, who contrived a serviceable clamp to facilitate its execution. The advent of antiseptic surgery also tended to further the advance of this operation, and meeting with cases in which either failure had occurred from the other methods referred to, and in which the large varicocele was associated with marked elongation of the scrotum, I resumed its use under the stimulus of Dr. Henry's cases. I soon found renewed cause for dissatisfaction, and in 1882 an addition was made to this truncation of the scrotum. This was as follows:

After including the portion of the skin of the scrotum between the jaws of Henry's or Andrews'[1] clamp, which is placed antero-posteriorly along the raphé, to the extreme back limit of the scrotum, and removing the same by a few cuts with a strong scissors, the instrument is removed and all the numerous bleeding points tied with fine catgut. Both testicles are now seen enclosed in their tunica vaginalis, hanging down through the wound, and the dilated tortuous veins are clearly brought into view. Instead of closing the wound, after washing it with the sublimate solution of 1 to 2,000 or 1 to 5,000, I determined, and so did then and since, to tie these veins while thus exposed in one or two selected places, by passing a catgut ligature around them, which is a matter of very easy accomplishment.

I soon found an extra reason to be pleased with this method. In not a small number of varicoceles there is associated with them the formation of little spermatic cysts about the head of the epididymis, which are often the seat of considerable pain. These when encountered in an amputation of the scrotum, can not only be very easily recognized but treated. They are simply to be split open and their interior swabbed out with pure carbolic acid, applied on a cotton probe or match. The temptation is great to tie all the sets of varicosed veins, and there are generally two, and sometimes three packets of such to be seen. The larger one or ones contain the spermatic artery. I have attempted but once to isolate this, so as to tie only the veins, and found it then impracticable, and the testimony of others is in the same direction. This care is unnecessary, as has been already stated, but it would be dangerous to ligate the artery of the vas deferens. This is to be found in the smaller detached batch of veins that inclines toward the base of the testicle. These are therefore not to be tied; at least, in the only case in which I know of risk occurring to the testicle the ligatures were so placed, I understand, as to choke off all the veins.

If care is taken to arrest all oozing of blood, the wound may be closed with interrupted or continued catgut sutures (the former are preferred) without using a drainage-tube, and a dressing of peat-bags or sublimated gauze, over the surface of which iodoform is dusted, can be applied, and firmly secured in place, over layers of absorbent cotton, by a tight double figure-of-eight bandage. By doing in this manner primary union is obtained in from five to eight days. If the bleeding is not entirely checked, a drainage-tube should be used and removed on or before the fifth day. It is needless to say, that in all the surgical interferences with the scrotal veins, from simple ligation to amputation of the scrotum, strict attention to antiseptic rules should be maintained.

Should, in either of the cutting operations, failure of union occur, the granulating patch is quite painless and does not prevent the patient going about with a large cotton-lined suspensory bandage.

I have now repeated this operation for large or otherwise intractable varicocele in nine cases, and with a most satisfactory result, and without any complication in the treatment save such as came in a few instances from the premature giving way of several turns of a continued suture, and it is for this reason that the interrupted suture is now advised. Dr. Abbe, one of the surgeons at St. Luke's Hospital, has also had six cases in which this treatment has been applied, with an excellent result, and in two of these the operation was painlessly done by him under the subcutaneous injection of cocaine.

Whether the procedure has exactly been used by other surgeons is not known, but it is extremely probable that it has, for the end to be attained has existed in the mind of the distinguished Guyon,[2] for instance, who, in 1884,

[1] Wien Med. Presse, 1870.
[2] Wien Med. Wochenschr., 1884, No. 14.
[3] Union Medicale, 1885, No. 45.
[4] Rev. de Chirurgie, 1884, p. 366.
[5] Lancet, March 25, 1882.

[1] A somewhat simpler instrument than Henry's. New York Journal of Medicine, November 23, 1884.
[2] Annales des Maladies des Organes Genito-urinaires, 1884, p. 298.

reported several cases where he successfully amputated the scrotum for varicocele by a transverse cut and tied the veins in the wound, and Henry Lee,[1] of London, advocated, in 1885, the radical cure of varicocele by scrotal amputation and subsequent temporary ligation of the veins until they have been divided and their ends lightly seared with a black cautery iron, on the ground that in the severer cases of this disease other operations are but temporary in their benefit.

Since my experience does not proceed beyond the operations recorded in the foregoing remarks, I beg forthwith to sum up in these concluding words: 1. That for small varicoceles, there is nothing better than the single (*or* double) subcutaneous catgut ligature. 2. That for medium-sized varicoceles or for cases declining a more heroic operation, excision in careful hands is to be advised. 3. That for large varicoceles, for relapsed cases, and for those not very large, but with a much elongated scrotum, ablation of the scrotum with ligation of the veins is preferable.

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A CONTRIBUTION TO THE NATURAL HISTORY OF PULMONARY CONSUMPTION.

Embracing the Causation and Symptomatic Events. Based on an Analysis of Fifty-nine Cases of the Disease.

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(Continued from page 299.)

Infection and contagion.—It does not come within the scope of this paper to discuss this important and somewhat perplexing subject at length. A brief retrospect of some of the cardinal points in its literature may, however, not be out of place.

The doctrine of the infectious or contagious nature of pulmonary consumption has always had an extensive following in the South of Europe. Galen was a believer in this doctrine, and Morgagni firmly advocated it. It received but little attention, however, from the great body of the medical profession until M. Villemin succeeded in 1865 in inoculating rabbits with the virus of tuberculosis.[2] Research in this line of study at once received a great impetus, which has continued to the present day without abatement.[3] Villemin's experiments have been repeated and confirmed with more or less exactness by various investigators (Clark, Fox, Sanderson, Tappeiner, Schottelius, Gerlach, Cohnheim, and others). Some of these observers, however, found that the employment of other substances, such as cinnabar, cork, cheese, pulverized brain-tissue, the sputa of simple bronchitis, etc., led to apparently the same result as the introduction of the true tuberculous virus. The more recent elaborate experimental investigations of Hyppolite Martin prove that tubercular material alone is capable of reproducing true tubercular lesions, and that the so-called tubercular reproductions of other foreign substances are not genuine, but "pseudo-tubercular" lesions.[4]

In the light of these prognostic events, the announcement by Robert Koch[5] of his discovery of the *bacillus tuberculosis* was not altogether unlooked for. This chain of experimental research points very strongly to the presence of a specific and contagious virus in the lesions of tuberculosis, of which the micro-organism of Koch seems to be the essence. So far as I know only two instances of direct inoculation from man to man are on record. Though standing alone they are yet of great importance. Following is a brief sketch of these cases. 1. Three Greek physicians of Syra inoculated a patient with perfectly healthy lungs, who was in a moribund condition from gangrene of the left lower extremity, with the sputum of a phthisical patient. Signs of induration appeared at the right pulmonary apex at the end of three weeks, and in thirty-eight days the patient died of the gangrene. At the necropsy seventeen small tubercles were found at the right apex, varying in size from a mustard-seed to a lentil. Two granulations were also found at the left apex, and two on the convex surface of the liver.[1] 2. A cook, a sound, healthy woman, in the family of Professor H——, in removing a cup containing sputa from the bedside of the professor (who was suffering with consumption, and died soon after), cut her hand on the vessel, a spicula of glass puncturing one of her fingers. The injured member refused to heal, and the cubital and axillary glands became swollen and indurated. The finger was disarticulated, and the enlarged glands also removed. Specimens, both of the finger and the extirpated glands, were prepared, and a microscopical examination demonstrated the presence of tubercular bacilli in abundance.[2]

The foregoing data constitute our chief reasons for regarding pulmonary consumption as an infectious or contagious disease. Some of the facts are very suggestive, but much remains to be explained. Isolated cases are reported from time to time, which seem to have their origin in contagion. It has not been shown, however, why years of exposure to, and attendance on, phthisical cases, examples of which we see daily in hospital nurses and attendants, fail to develop the disease. The great mass of clinical experience is at variance with the doctrine of contagion or infection. An analysis of the cases in the table which form the basis of this paper fails to offer it much support. All of the patients were interrogated as to opportunities for contracting the disease through contact with, or living with, other consumptive patients. It was ascertained that 12 of the patients were at the time, or had recently been, living with or nursing a consumptive relative. In 3 instances the patients stated that they slept in the same bed, and in 5 others in the same room. It will be seen by consulting the table, however, that the person lived with was in almost every case a near blood-relative; hence, it is problematical whether family predisposition, or a common mode of life, were not equally as, or more, instrumental in determining the development of the disease than the medium of personal contact. Some of the patients informed me that they had never, to their knowledge, seen a person who was suffering with consumption.

After a careful review of this much-vexed question, it strikes me that the present state of professional opinion may be formulated as follows: First, the results of *experimental pathology* are strongly in favor of the proposition (*a*) that tubercle is an infectious malady originating in a specific virus and propagated by the conveyance of that virus from body to body, and originating in no other way; and (*b*) that the activity of this virus is embodied in a micro-organism peculiar to tubercle and denominated by Koch the *Bacillus tuberculosis*.[3] Second, *clinical experience* fails to sustain this view. It shows that while consumption may possibly be communicated from person to person by long and constant contact, especially in cases in which the *receptivity* already exists,

[1] Lancet, April 18, 1885, p. 695.

[2] Gazette Méd. de Paris, 1865; also, Études de la Tuberculose, 1868.

[3] The following references embrace some of the more important contributions to the subject: Andrew Clark, Medical Times and Gazette, 1861; Burdon Sanderson, Tenth Report of the Medical Officer of the Privy Council, London, 1868; Wilson Fox, On the Artificial Production of Tubercle in the Lower Animals, 4to, London, 1868; Cohnheim, Consumption as a Contagious Disease, London, 1880; Billinger, Archiv. f. Experiment. Pathologie, Bd. 1., 1873; Hyppolite Martine, Revue de Méd., April, 1881, also, Archiv. de Physiol.; Tappeiner, Virchow's Archiv., 1880, Bd. 2; Koch, Berl. klin. Woch., 1882, No. 15, *et seq.*; Yeo, Brit. Med. Journ., 1882, i., 895; Magnin and Sternberg, Bacteria, New York, 1884; Review by L. M., Am. Journ. Med. Sci., 1882, lxxxiii.; Webb, Journ. Am. Med. Assn., April 18, 1885.

[4] Dr. Sternberg has recently shown, by a series of laborious and painstaking experiments, that the introduction of inorganic material, such as glass, ultramarine blue, etc., will not produce the lesions of tuberculosis (Am. Jour. Med. Sci., January, 1885).

[5] Berl. klin. Woch., No. 15, 1882.

[1] Nouveau Dictionnaire de Médicine (article Phthisis).

[2] Hospitals-Tidende, Copenhagen, December 27, 1884.

[3] An admirable exposition of the significance of this bacillus will be found in Friedlander's Manual of Microscopical Technology, translated by Dr. Stephen Yates Howell. New York, 1885.

the vast majority of cases originate from causes entirely independent of this influence, so far as can be traced.

Pregnancy, childbirth, miscarriage, etc.—Of the 19 female cases analyzed, 16 were married, 12 had been pregnant, and 5 of the 12 had had one or more miscarriages. Two of the patients had a vague idea that childbirth or nursing had something to do with bringing on their disease, but the connection seemed very remote and this is not given a place among the causes assigned by patients in the table. One patient, however, dated her disease very clearly from a miscarriage which she had had a few months previously. It was attended by great loss of blood and several weeks' confinement. She developed a cough during her illness which was soon followed by hæmoptysis, night-sweats, and emaciation. On her visit to the clinic she was well advanced in consumption, having catarrh at the left apex and extensive consolidation in the upper part of the right lung. There was no hereditary influence in this case, and the connection between the miscarriage and the lung trouble seemed very direct. In none of the other cases, however, did it seem reasonable to attach any etiological significance to the fact that the patient had borne children or had miscarriages. Altogether these cases do not offer much support to the view that pregnancy or childbirth bear an important causal relation to phthisis. It has been clearly established that consumption is more common among males (at least in the class among whom these observations were made) than among females. The inference does not seem illogical that if those influences to which males are not subject were largely operative, such would not be the case. Besides, it must be remembered that a large proportion of women marry and bear children, so that phthisis must necessarily choose a considerable number of its victims from this class. In this connection an interesting point of investigation relates to the relative frequency of consumption in the two sexes during the fifth decennial period of life, as during this decade the vast majority of women attain the menopause, or "critical period." An analysis of the 917 cases shows that 96 out of 548 males, or a little more than seventeen per cent. were between forty and fifty years of age, and that 57 out of 369 females, or only a little more than fifteen per cent., were of the same age. It may be stated that several of the females attributed more or less influence to "change of life" in bringing on their lung disease. It is well known, however, that any illness, of whatever nature, which may occur about this period, is apt to be referred by the patient to the same cause. No other reason than that the age for change of life had come was assigned for their suppositions in these cases, and it seemed to me that the occurrence of phthisis was coincidental and not referable to the menopause. A study of the foregoing facts, then, would oppose the view that the functions peculiar to the female sex, or the cessation of those functions, are largely instrumental in the production of consumption.

Alcoholics.—Fifty-five of the cases in the table were interrogated as to their habits with regard to the use of alcoholic stimulants. The following results were obtained: 9 patients admitted that they were habitual hard drinkers; 26 were addicted to the use of alcoholic stimulants in moderate quantities, and 4 drank occasionally; in all, then, 39 patients out of 55 who were questioned were more or less habituated to the use of alcoholic beverages. These facts would seem to contravene a very popular idea that such indulgence acts somewhat in the nature of a prophylactic against consumption. However beneficial their judicious use may be in the treatment, it can not be said that the ordinary habit of alcoholic indulgence offers much in the way of prevention of the disease.

Syphilis.—The subject of the relationship between syphilis and pulmonary disease is one which has attracted considerable attention in this city during the past few months, and about which no little difference of opinion still exists. Hence, in investigating the influence of syphilis in these cases every precaution was taken to avoid error and to secure truthful histories, in order, if possible, to obtain an insight into the real condition of affairs. The impossibility of ascertaining the influence of heredity with respect to syphilis under the circumstances attending these investigations is evident. The following account, therefore, and the conclusions deduced therefrom, relate only to acquired syphilis. In 5 of the 59 cases, for sufficient reasons, no questions were asked on this subject. In the remaining 54 cases the results of a close and careful examination were as follows: 40 of the patients stated positively and unequivocally, that they had never at any period of their lives had a sore or ulcer of any nature whatever upon their genital organs. They also gave negative replies when questioned with reference to the common well-known symptoms of secondary syphilis. None of these patients had, so far as I could ascertain, any symptom or sign of syphilis at the time of examination. Four of the patients gave histories which made the existence of syphilis at some past time probable, or at least suspicious. Subjoined is a synopsis of these cases:

Case. 1.—A widow, aged forty-five, whose husband had died many years previously. She admitted that she had been exposed to venereal contact since that time and was under the impression that she had had syphilis ten years previously to the time she came under observation. She remembered no symptoms, however, except a skin disease, and is classed in the table as "suspicious." She had lost her mother and a son with consumption, and attributed her lung disease to exposure to cold and wet. She had slight periosteal tenderness and a cicatrix on the left side of her neck, whence an enlarged suppurating gland had been removed.

Case 2.—A widow, aged forty-two, a professional equestrienne, who had led a fast life. She stated that her husband had syphilis before he died and that about twenty years ago (prior to examination) she had had a suppurating ulcer on the left labium majus. The sore soon healed and was not followed by any secondary symptoms that she remembered. She had lost a sister with consumption. The patient thought her lung trouble was due to "change of life," although she had not been entirely well since an attack of pleuro-pneumonia, which she had in April, 1884.

Case 3.—An old man, aged sixty-five, who had travelled over the world considerably and thought that he had had all the venereal diseases "known to science." I could get no history pointing to syphilis, however, except of "swelling in the groins," and he too is classed as "suspicious." He thought that his lung trouble was the result of a general breaking up of his system due to old age.

Case 4.—A woman, aged thirty-seven, who thought she had contracted a blood-disease from her husband, who the doctors said had syphilis several years ago. She had a rash on her skin which lasted a month or two, and some soreness of the throat, but no local sore. She attributed her pulmonary disease to mental anxiety, caused by domestic troubles. She had well-marked hydrothorax in addition to her phthisical trouble.

Basing the diagnosis of syphilis on the presence of a local sore followed by secondary symptoms, we find that ten out of fifty-four cases (about eighteen per cent.) gave tolerably clear histories. Reference to the table will show the leading points in connection with these cases, so that it will be unnecessary to repeat them here. It should be mentioned, however, that in two cases of long-standing phthisis the patients informed me that they had well-marked symptoms of lung disease before contracting syphilis. In three others, also, the local sore described was not of the indurated, non-suppurating variety, commonly known as the initial lesion of syphilis. The manifestations of tertiary syphilis were also very

meagre in most of these cases. Only four had alopecia, less than half a dozen made complaint of osteocopic pains, and in only five of the entire fifty-nine was there any lesion of the skin whatever at the time of examination (one of these cases was afterward diagnosed as psoriasis by a competent dermatologist).

Tenderness and œdema over the sternum and tibial crests has been urged by Professor William H. Porter[1] as a pathognomonic sign of advanced pulmonary syphilis. As described by Dr. Porter "pressure over these regions produces a very peculiar pain which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction of the electric current." Being aware of Dr. Porter's views on this subject early in the summer (before the publication of his paper), I determined to give it a careful investigation in every case of phthisis which should come under my observation during the session. Fifty-seven of the cases in the table were examined with reference to this sign. The result was as follows: In five cases, more or less evidence of pain could be elicited by making firm pressure both up and down the sternum and the crests of the tibiæ. In no case, however, was the pain unendurable, or even extremely severe. In the remaining fifty-two cases all endeavors to bring out this sign were futile. Every precaution was observed, the patients often being taken off their guard, but nothing further than the necessary discomfort produced, which bore no semblance to pain, was complained of.[2] Some significance, however, may lie in the fact that three of the five cases in which periosteal tenderness was present had syphilitic histories, and a fourth gave a history suspicious of syphilis. In looking for a possible connection between the syphilitic symptoms and the development of consumption meagre results were also obtained. We find that two of the patients with histories of syphilis had had pneumonia; three had had pleurisy; the father of one had died with consumption, and two were living with consumptive brothers. Altogether, then, eight of the ten gave efficient causes for phthisis without taking the syphilitic histories *into* consideration. Again, in looking over the events of the histories of the syphilitic cases as shown in the table, it is difficult to see wherein they differ from those in the cases without syphilitic histories. We find the familiar cough, hæmoptysis, night-sweats, emaciation, dyspnœa, elevation of temperature, etc., in about the same proportions in both classes of cases. A careful study of the foregoing facts warrants us in assuming from a *clinical* point of view, first, that syphilis is not a cogent factor in the production of pulmonary phthisis; second, that the fact that a patient has had syphilis modifies to a very slight, if to any extent, the ordinary course of a phthisical attack.

Rheumatism.—Articular rheumatism has been mentioned from time to time as having a causative relation to phthisis. On examining the 59 tabulated cases we find that 6, or a trifle more than ten per cent., gave rheumatic histories; 13 others stated that they had had rheumatism, but on careful questioning it was found that their trouble had been muscular rheumatism (lumbago, pleurodynia, scapulodynia, etc.), or dorso-intercostal neuralgia. Their influence in the causation of phthisis may probably be regarded as *nil*. The remaining cases had had neither muscular nor articular rheumatism. Following is a brief sketch of the cases with rheumatic histories:

Case 1.—Male, aged forty-seven. Had several attacks of articular rheumatism which he thought undermined his health. He did not date his pulmonary symptoms from an attack, however, as he had been up and about for six or eight months when he commenced to cough.

Case 2.—Male, aged twenty-eight. Had an attack of rheumatism eight or nine years ago, about a year and a half before the commencement of pulmonary symptoms. His joints remained stiff and sore for a long time.

Case 3.—Male, aged thirty-seven. Had rheumatism ten years ago, with complete recovery. Symptoms of consumption came on three or four months ago. He had subacute pleurisy, complicating his phthisis.

Case 4.—Female, aged forty-three. Had several attacks of rheumatism in her joints, and felt touches of it to date of examination. This patient had lost a sister with consumption, and had had several miscarriages. She attributed her disease (consumption) to exposure.

Case 5.—Male, aged twenty-seven. Had rheumatism fourteen years ago, and entirely recovered. Phthisis commenced in December, 1884 (about eight months before examination). Father died of consumption.

Case 6.—Male, aged thirty. Had rheumatism nine years ago, with perfect recovery. This patient dated his consumption from an attack of pleurisy which he had in 1884.

The histories of these cases do not show an intimate relationship between articular rheumatism and consumption, and offer no support to the view that the former is an active cause of the latter. It is not unreasonable to suppose, however, that severe or repeated attacks of rheumatism may so debilitate the system as to render it less capable of withstanding the exciting causes of consumption.

Pneumonia and pleurisy.—Of the 59 tabulated cases, 10 stated that they had had pneumonia, 9 had had pleurisy, and 4 had had both diseases[1]—in all 23 cases, or almost thirty-nine per cent. of the whole number. Seven of the patients dated their present illness directly from a pneumonic attack, having never recovered from its effects, 2 from an attack of pneumonia and pleurisy combined, and 1 from a pleuritic attack, making in all 10 cases, or seventeen per cent. in which the connection between the antecedent pulmonary disease and the symptoms of consumption were clear and unmistakable. In most of the remaining cases the patients attached great importance to the previous lung trouble, stating that they had never been as strong as before, that they considered the lung on the affected side weak, etc. A physical examination almost invariably showed that the phthisical process was situated on this side or on both sides. We find that 6 of these patients gave a family history of consumption, which leaves 17 cases, or 28.8 per cent. of the whole number, in which antecedent pulmonary disease seemed to be the most efficient factor in the development of the phthisical attack. These cases would indicate that pneumonia and pleurisy possess a very strong etiological relation to consumption.[2]

Other antecedent diseases.—In order to learn the influence of other affections in the development of consumption, each patient was interrogated as to what diseases, if any (besides those already considered), he had suffered from during the three years immediately preceding the appearance of the phthisical symptoms. The subjoined result was obtained, for which, of course, due allowances must be made for forgetfulness, etc.: Malarial fever, 3; tape-worm, 3; dyspepsia, 2; gonorrhœa, 2; and 1 each of the following—enteric fever, hæmorrhoids, colliquative diarrhœa, chagres fever, prolapsus uteri, "uterine disorder," habitual constipation, severe bronchitis, diphtheria, hæmatemesis, heart dis-

[1] New York Medical Journal, August 1, 1885. In this paper Dr. Porter states that fifty per cent. of all cases of pulmonary disease treated at his clinics could be traced to a syphilitic origin.

[2] In upward of 1,500 cases of thoracic diseases of all kinds which I have seen at the clinics of Professor Burt since October, 1883, I recall less than a dozen who complained of unusual pain while undergoing the ordinary manipulations of a physical examination. Since reading the paper of Dr. E. Darwin Hudson, Jr. (Medical Record, 1885, xxvii., 505, 510), I have seen several cases in which the muscular tumor or "cutaneous intumescence" described by him could be produced by light, immediate percussion-blows over the costal cartilages in thin subjects.

[1] These diagnoses, I was informed by the patients, were made at the time by the attending physicians.

[2] Professor Ruehle is of the opinion that pleurisy acts chiefly as an *exciting* cause in cases in which a diathesis already exists (Ziemssen's Cyclopædia, vol. v., p. 501).

ease, abdominal neuralgia, nasal catarrh, emphysema, and hydrothorax. Some of these affections continued up to the time the patients came under observation, and will be further considered under the head of Complications. As will be seen, many of them are of minor importance, and none occurred with sufficient frequency—with the possible exception of malarial fever—to give them any special causative significance. Two of the patients stated that the knowledge of having a tape-worm gave them constant anxiety, and this no doubt exerted a deleterious influence over the pulmonary trouble. We may say, then, that this point of enquiry produced, on the whole, rather negative results.

Climate; where living when symptoms appeared, etc.—The object of this point of enquiry was to ascertain as far as possible the effect of the climate of New York on the production and course of consumption. The number of cases observed was too small and the visits of the patients too irregular to lead to decided results. As might be expected, most of the patients developed their disease in New York, their place of residence. Following is a list of the places or countries where the symptoms of phthisis first made their appearance: New York City and vicinity, fifty-two, and Germany, Malta, Pennsylvania, Nebraska, Chicago, and Philadelphia each one. Both the patients from the West—one from Nebraska, the other from Chicago—considered themselves very much worse since their arrival in New York. The Chicago patient informed me that his symptoms had almost disappeared and he supposed he was getting well while in the West, but since his residence in New York (only a few weeks) he was much worse than ever. His disease was rapidly progressive during the time he was under observation. These limited observations only corroborate a fact which is already well-known, viz., that the climate of the seaboard in this latitude is highly favorable to the development and rapid progress of phthisis pulmonalis.[1]

Influence of season.—All the patients were interrogated on this subject in order to learn at what period of the year phthisis is most likely to be developed. In 16 cases the patients were unable to state this point. The remaining 43 cases began as follows: In January, 6; February, 3; March, 5; April, 3; May, 1; spring (month unknown), 7; June, 4; July, 4; August, 3; September, 1; October, 1; December, 5. Thus we find that in the three winter months (December, January, and February) the symptoms came on in 14 cases, in the spring in 16 cases, in the summer in 11 cases, and in the fall in 2 cases. This gives a slight percentage in favor of spring, which is closely followed, however, by winter. The fall months show a strikingly small proportion, November not being represented at all.

At the Bellevue Dispensary cases of consumption are considerably more frequent in the winter and spring than in the summer season. This may be partially accounted for by the fact that some of the patients under treatment secure employment in the country, or, at any rate, leave the city at the advent of hot weather. Nevertheless, it cannot be doubted that some of the prolific causes of phthisis, viz., pneumonia and pleurisy, are far more frequent in winter and spring than in the summer.

Floor of house occupied.—It did not occur to me to enquire into this subject until late in the summer, consequently I obtained statistics of only twenty cases. The question, On what floor of the house were you living at the time your symptoms first came on? was asked in each case. The result was as follows: 10 occupied the first floor, 5 the second, 1 the third, 2 the fourth, and 2 the "top" floor. (Almost without exception the patients lived in tenement houses.) Thus we see that one-half of the patients interrogated lived on the lower floor, and a fourth on the floor next above. The number analyzed, to be sure, was not large, and a more extensive enquiry might lead to different results; but so far as they go these cases show that persons living on the lower floors of New York tenement houses are much more liable to consumption than those on the upper floors. This is not surprising to those who are acquainted with the construction and surroundings of these places of abode; the upper floors as a rule have better facilities both for light and ventilation than the lower.

Causes assigned by patient.—In order to complete the enquiry into the causation, each patient was asked to give his own opinion as to the most probable cause of his lung trouble, or to what facts or events he attributed it. Eighteen of the patients were unable to assign a cause; forty-one, however, had opinions on the subject, and not a few very positive convictions.

The results of this enquiry were as follows: Inherited, or because it was in the family, 4; heredity and exposure, 1; result of pneumonia, 6; result of pleurisy, 1; of pleurisy and syphilis, 1; of pleurisy and subsequent exposure, 1; result simply of exposure, 7; hard work, 3; occupation, 3; "change of life," 3; bad cold, 2; close confinement, 2; bad air, 2; "hard luck," 1; domestic troubles, 1; old age, 1; contracted while nursing consumptive aunt, 1, and ill-treatment, miscarriage, and hard work, 1.

Some of these causes are perhaps a little far-fetched, but it cannot be doubted that in most cases the patients were very near the truth.

Facts Pertaining to Symptomatology.—In inquiring into this subject, we will first consider the symptom or event which initiated the disease. In 15 of the cases the first symptom noted by the patient was a dry cough: Commenced with cough (character not stated), 15; with hæmoptysis, 8; cough and hæmoptysis together, 2; pneumonia, 6; pleurisy and pneumonia (pleuro-pneumonia?), 2; pleurisy, 1; pain in side, 2; pain about heart (mitral regurgitation), 1; "bad cold," 1; attack of bronchitis, 2; intermittent fever, 1; vertigo and sick stomach, 1; and suppressed menstruation, 1. One patient did not remember how his trouble began. Pneumonia and pleurisy have already been discussed; the other principal symptoms will be considered under their individual heads.

Cough and expectoration.—As would naturally be expected we find cough to be the most constant and one of the most prominent symptoms. This event initiated the disease, or, at least, was the first symptom observed by the patient in 30, or more than half the cases, without considering those beginning with pneumonia or pleurisy. Fifteen of these stated that the cough was dry and hacking in the beginning, while in 15 others the character of the initiatory cough was not noted. Two of the patients informed me that they had been treated a long time for bronchitis before they commenced to have night-sweats, hæmoptysis, and other common symptoms of consumption. In all the other cases, however, the patients considered the cough a part of the disease, *ab initio*.[1] In only one case of the 59 was this symptom absent. This patient, a female aged thirty-four, persistently maintained that she had no cough at the time these observations were made, nor had she ever had any, although her history extended over a period of several years. Yet we find that she had great emaciation, pallor, dyspnœa, disordered digestion, aversion to fats, night-sweats, and scanty menstruation. On physical examination, bronchial breathing and dulness showed extensive consolidation in the upper part of the right lung. The patient informed me that she raised more or less yellowish or sanguineous expectoration at times, but that no efforts at coughing were required. Accepting the statement of the patient as true, this condition would seem to admit

[1] For valuable information on this subject see papers by Charles J. Kenworthy, M.D., etc., in Gaillard's Medical Journal, November, 1881, and January, 1882. According to Blodgett's Climatology the percentage of deaths from phthisis in New York State is 17.04, or about 170 per 1,000. Lawson states (U. S. Army Reports) that the percentage of deaths from this disease in the United States diminishes progressively from North to South. For example, in Maine it is 258; New York, 168; Florida, 58; Minnesota, 133; and in Alabama, 71 per 1,000. In the whole United States it is 142 per 1,000.

[1] It is probable that many of the cases, especially those resulting from exposure, "bad cold," etc., began as simple bronchitis.

of no explanation, save under the hypothesis that there was complete loss of sensibility of the laryngeal mucous membrane.[1] With reference to *expectoration* we find that it was variable in 9 cases, profuse or abundant in 28, and variously denominated as scanty, bloody, or frothy in 18. One patient stated that he had never had any expectoration, and in 3 no inquiry was made in regard to it. The nature of the expectorated matters was observed, so far as possible, while the patients were in the clinic-rooms. In general, it was found that the expectoration was more abundant in advanced cases, and in cases that were progressive, though not a few exceptions to this rule, were noted.

Dyspnœa.—This symptom was present with greater or less severity in 50 cases; 8 of the patients stated that they had never experienced any shortness of breath, and in one case no inquiry was made. In several cases the dyspnœa seemed to be more the result of general weakness than of destruction of the respiratory surface. Generally speaking, however, it seemed to bear a tolerably constant relation to the progressiveness of the disease, and to the extent of lung-tissue involved.

Hæmoptysis.—In the table we find that this symptom existed in 43 cases, was absent in 14, and was not noted in 2. In 31 additional cases in which enquiries were made it was present in 22 and absent in 9 cases. This makes a total of 65 cases in which hemorrhage from the lungs was present out of 88 which were noted. Three of the cases in the table came under observation during the summer suffering from this symptom alone, having no physical signs whatever at first. They developed consumption while under observation, as shown by the gradual appearance of other symptoms and by repeated physical examinations of the lungs. We find on examining the table that in 8 cases hæmoptysis was the initiatory symptom, and in two others either the first or second. Whether or not the occurrence of bronchial hemorrhage acts as an exciting cause of phthisis is by no means a settled question;[2] it is very generally recognized as an extremely significant prodromic event. My observations lead me to believe that, occurring at any time, it should not be lightly regarded. Aside from the local irritating effects of the effused blood, and from the loss to the general system, it excites apprehensions in the mind of the patient from which it is difficult to reassure him, and undoubtedly in this way exerts a very unfavorable influence on the progress of the disease.

Pallor.—Of the 59 cases analyzed, 50 exhibited more or less pallor of the surface. This symptom was generally found to follow a course *pari passu* with the emaciation. A few exceptions were noted in which great pallor was present with very slight loss of flesh, and *vice versâ*. In 2 cases, which are marked "fibrous phthisis" in the table, the superficies presented a florid aspect, and in several other cases the face was not notably pale. *Brilliancy of the eyes* was observed in the majority of recent cases in patients under the age of thirty, though facts with reference to its frequency are not embraced in the records. This symptom was usually concomitant with high temperature. In spite of the few exceptions noted, pallor of the surface may be classed as one of the most constant signs of consumption, and probably no case runs its course without it sooner or later.

Emaciation.—This symptom was noted in all the tabulated, and in 33 additional cases, making a total of 92. It was present to a greater or less extent in 88. In 4 cases the patients stated that they had not lost in weight since the beginning of the phthisical symptoms. Variation in the weight was noticed to be one of the most reliable indices to the progress of the disease. When the patient was not losing flesh the other symptoms were apt to be in abeyance, but when the reverse was the case the phthisical processes were found to be steadily extending.

Pain.—Twenty-six cases stated that they had experienced no pain whatever since the beginning of their lung trouble. Thirty-three had pains of various kinds in the region of the chest. In most of these the pain referred to was found to be wandering, fugitive, muscular, or præcordial, being largely due to intercostal neuralgia or pleurodynia, and occasionally to violent coughing. It was not uncommon to find the pain on the opposite side or in a situation remote from the seat of the disease. In only six or seven cases could it be traced to the diseased lung, and even then it bore no relation to the severity or progressiveness of the disease. From these data, then, it would appear that pain is not a prominent event in the history of consumption, and that it is of little importance in making a diagnosis, either of the existence or of the location of a phthisical process.

Sternal and tibial œdema and tenderness.—This subject has been considered under the head of Syphilis.

Night-sweats.—This symptom was present in 49 and absent in 10 of the tabulated cases; in 27 previous cases it was present in 24 and absent in 3 cases. Most of the cases in which it was absent were in an advanced stage. Several of these informed me that they had had night-sweats several months, or a "long time," ago, but others insisted that they had never had them.

Erasmus Wilson was, no doubt, correct, when he affirmed that the skin acted as an "everted lung" in eliminating carbonic acid, and thereby ventilating the blood, for we cannot question its use as an emunctory in health; but the theory that the night-sweats of phthisis constitute a conservative process on the part of nature in aiding a crippled lung, and that they are thereby beneficial to the patient and deserving of encouragement, meets with no support from the cases which I have seen. The patients invariably informed me that, aside from the discomfort produced, they felt weaker, less cheerful, and worse in all respects after a severe night-sweat.

The few exceptions noted do not invalidate the general rule that night-sweats constitute one of the most constant, as well as debilitating and distressing, symptoms of phthisis.

Appetite, digestion, etc.—Twenty-two of the 59 patients had good or fair appetites. In 36 the appetite was indifferent, poor, or altogether absent. One patient spoke of having "peculiar cravings" since the beginning of her disease. She constantly longed for such articles as pickles, sauces, etc., which she had never relished while in health. Twenty-four of the patients stated that they considered their *digestion* good or fair; 34 made complaints of certain errors of digestion, 14 of this number were costive and 4 had diarrhœa almost constantly; five of the number had frequent spells of vomiting, and 11 complained of pains after eating, and eructations, nausea, and occasional constipation, or diarrhœa. One case was not interrogated on this point.

In regard to *fatty articles of food*, 18 patients stated that they had always had a distaste for them. The appetites of 18 others had changed in this respect since the beginning of their disease (about thirty-two per cent. of those observed). They formerly relished such articles, but could not now eat them without nausea or vomiting. Twenty of the patients relished fats, or could eat them without disagreeable effects. Three cases were not noted. *The tongue* was considerably or heavily coated in 41 cases, slightly coated in 8, clear in 6, and not observed in 4 cases. Coating of the tongue would appear, then, to be a very constant condition in consumption. It was observed in a number of cases, who stated that the appetite was good, the bowels regular, and who seemed to have no trouble with digestion. It was certainly far more frequently observed in the cases of con-

[1] In the Medical Times and Gazette (April 1, 1882) two cases of phthisis are reported in which expectoration was absent throughout the course of the disease, and the cough was so slight and infrequent as to pass almost unnoticed. The downward course was rapid, death occurring in each case in four months, and the other symptoms and physical signs were not different from those of ordinary phthisis.

[2] Drs. Reginald Thompson and William Ewart are of the opinion that a large proportion of well-defined encapsulated cavities take their origin in hemorrhagic deposits (Ewart-Gulstonian Lectures for 1882, Brit. Med. Journal, 1882, i., 333 *et seq.*).

sumption than in cases of asthma, bronchitis, emphysema, and other pulmonary troubles which came under my observation.

Bulbous fingers and incurvated nails.—Fifty-eight of the tabulated cases were examined for these conditions. It was deemed that 25 (slightly more than forty-three per cent.) of this number had one or both.[1] In only two or three instances, however, were they so well marked as to have attracted the notice of the patients, most of them asseverating that no changes had taken place in the shapes of their fingers or nails since the beginning of their illness, and that these appearances were due to rough usage of their hands by hard work, etc. This was doubtless true to some extent, for the same appearances were observed in patients who had no trouble with their heart or lungs. It will be seen, too, that a number of the cases in which these conditions are noted as existing that the patients were in the early stages of the disease; on the contrary, some of the far-advanced cases showed no signs of them. On the whole, then, these data would indicate that clubbing of the fingers and incurvation of the nails are signs of only occasional value in the diagnosis of phthisis, and that their existence should be given very little weight when occurring among the laboring classes.

Œdema of the feet and ankles.—Dropsy of the lower extremities was entirely absent in 41 cases out of 57 who were examined. It existed in 16 cases, but was very slight in most of them. In only 3 was it well marked; one of these was complicated by mitral regurgitation, and hydro-thorax and hydro-peritoneum. A majority of the patients were examined at an hour when œdema of the lower extremities should manifest itself if the conditions were present for its existence, viz., from 1:30 to 2:30 P.M., after they had presumably been on their feet a number of hours. As far as they go, the foregoing numerical facts would indicate that dropsy of the feet and ankles is not a sign of much importance in "walking cases" of consumption.

Mental condition.—Twenty of the 59 cases were cheerful and hopeful, 2 felt indifferent, 31 were depressed or low-spirited, and 6 said that their state of mind with regard to their disease varied—sometimes they felt hopeful, even buoyant, at others very low-spirited. In none of the cases did the state of mind seem to bear much reference either to the stage of the disease or to the progress it was making. Some of the patients, even in the earliest stages, and in cases in which the disease was making very little if any progress, were in a state of great despondency—a marked contrast to the cheerful, buoyant frame of mind in which I found some of the most advanced cases. The mental condition seemed to bear a much more constant relation to the intellectual constitution of the patient than to his physical state.

Menstruation.—Of the 19 female patients in the table 10 stated that menstruation had ceased altogether since the appearance of the symptoms of consumption; in one of these, indeed, arrest of the menstrual flow was the first intimation the patient had of her approaching illness. In all the others it came on early, becoming scanty and irregular, and soon ceasing altogether. Menstruation is noted as being scanty, irregular, or diminished in 3 others. Five of the patients were past the menopause, while one claimed to be nursing a child to which she had given birth a few months previously. These results corroborate those of previous observers, viz., that arrest or irregularity of the menstrual function is an early and constant symptom in women afflicted with phthisis.

Laryngitis and pharyngitis.—Fifty-eight cases were noted with reference to throat symptoms; 20 of this number complained of "sore throat." It was not practicable to make an extended examination of the throat under the circumstances, but by means of a tongue-depressor I was enabled to recognize more or less redness and tumefaction of the pharyngeal mucous membrane in 10 cases. It was judged by the huskiness and hoarseness of the voice and by the statements of the patients (some of whom were under treatment for their throats) that 4 of this number and 7 others were suffering with laryngitis. It did not seem to be severe in more than 5 cases, but in most of them the patients informed me that they had been unable to obtain much relief; 2 of the laryngeal cases, whom I had seen off and on for more than a year, retained the same husky, stridulous voice throughout this time. One case had well-marked tonsillitis and 2 complained of their throats in whom nothing of a definite nature could be made out. Some of the patients thought their throat trouble was due to violent attacks of coughing. Thirty-eight cases made no complaints of their throats when questioned and consequently were not examined. From these data it would appear that affections of the throat are quite frequent attendants of phthisis, but that the majority of them are not distressing nor of great importance.

Pulse, respiration and temperature.—The pulse was noted in 58 cases; the highest rate was 160 beats per minute; lowest, 68; average of all the cases, 110.77. The pulse-rate was observed to fall from 4 or 5 to 15 or 20 beats to the minute after the first excitement of the examination was over; hence, it was in all cases among the last points of which a record was made. The respirations were observed in 56 cases; the result was: highest rate per minute, 40; lowest, 17; average, 27.46. The temperature was taken in 48 cases; the highest noted was 103° F.; lowest, 96°; average of all the cases, 99.17°. This represents the sublingual temperature. The observations were made in most of these cases between 1:30 and 2:30 P.M. It should be stated that the pulse, respiration, and temperature recorded in the table were in each case the result of the first observation made on the patients. It was of course impossible to observe the diurnal variations in dispensary patients. As far as could be judged under the circumstances the temperature was a trustworthy guide to the progress of the disease; a high temperature meant usually rapid extension of the phthisical process. The pulse, respiration, and temperature did not always observe a *pari passu* rate. The pulse was usually most frequent in the early stages, the respirations in the later stages of the disease. Some of the advanced cases had very rapid breathing while the temperature was normal or even subnormal.

COMPLICATIONS.—Of the 59 tabulated cases, 32 were, so far as could be determined, free from complications. In some of the other cases the conditions indicated as complications might perhaps be better classified as symptoms. The cases with other diseases, or with symptoms severe enough to constitute complications, were as follows: Tertiary syphilis, 3; severe indigestion, 2; tapeworm, 2; and one each of the following, lumbago, exhausting diarrhœa, hemorrhoids, necrosis of the sixth (left) rib, extreme muscular debility, tonsillitis, nasal catarrh, laryngitis, hydrothorax and ascites, prolapsus uteri, "uterine disorder," constant facial neuralgia and toothache, abdominal neuralgia, chagres fever, intermittent fever (?)[1], mitral regurgitation with subacute pleurisy and extensive pulmonary emphysema. It will be seen that many of these troubles were trifling and unimportant; but we are struck with several points of interest. For example, the infrequency of cardiac disease as a complication. Each one of the 59 cases was carefully examined with reference to this point; in only one was an organic trouble found. Among several hundred cases of phthisis which I have seen at the physical diagnosis clinics of the Post-Graduate School, less than a dozen were complicated by valvular lesions of the heart. This would imply rather an antagonism than a causative relation between

[1] Pollock states that they occurred in twenty-six per cent. of cases analyzed by him (Flint's Practice of Medicine, Phila., 1881).

[1] The supposed periodical paroxysms of tertian intermittent fever in this case were afterward learned to be simply exacerbations of the fever attending the pulmonary trouble.

phthisis and organic diseases of the heart. Again, we are impressed with the infrequency of nasal catarrh in the list, only one patient having it at the time or mentioning it as an antecedent affection. This is greatly at variance with a widespread idea among the laity (and indeed among some professional men) that nasal catarrh is a frequent forerunner of consumption, and an important prodromic event. These complications were of course only such as could be elicited, or were manifest at dispensary clinics.

Lung Involved.—On physical examination the left lung was found to be involved in 22 cases, the right lung in 19 cases, and evidences of the disease were found in both lungs in 18 cases. It is highly probable that a necroscopic examination would have shown both lungs to be involved to some extent in a far greater number of cases, the fact being evident that slight phthisical or tubercular changes are often beyond the ken of a physical examination. When the disease extends over a long period it no doubt exemplifies quite fully the law of symmetry or parallelism. In the great majority of the cases in the early stages the disease was found to be limited to the apex. When no evidences of disease were found in this situation it was usually found that phthisis did not exist in the lungs. The disease seemed to observe a fairly uniform course, as will be seen by comparing the column containing "condition of lungs" with that containing "time of commencement." As a rule, in cases dating back for a few weeks or several months, evidences of catarrh were found at one or both apices. In cases with histories from six months to a year or two in duration, consolidation was usually present with more or less catarrh, while in cases extending back for several years, consolidation and cavities were the rule. There were several notable exceptions to this rule, however. Two of them will be cited.

Case 1.—Young man aged twenty-four, compositor by occupation. His disease commenced in April, 1885 (two months before examination), with a dry cough. Hæmoptysis, night-sweats, and great dyspnœa came on rapidly. When seen he was found to have a temperature of 103°, and extensive consolidation with unmistakable evidences of excavation were found in the left lung.[1]

Case 2.—Male, carpenter, aged twenty-eight. No heredity. Had articular rheumatism eight or nine years ago; commenced to cough seven years ago. Had more or less dyspnœa, and occasional hæmoptysis; expectoration was variable, night-sweats frequent; digestion was fair, although the appetite was generally poor. Patient was found to be low-spirited at the time of examination, and evidences of pharyngitis were discovered; he also had lumbago. The temperature was 102½°. On a careful physical examination no further evidences of phthisis than circumscribed catarrh of the left apex could be found. This was evidently a case of occasional irruptions with long remissions; he was probably suffering from a fresh outbreak at the time these observations were made. Several other patients who claimed to have been sick only a few weeks presented unmistakable evidences of phthisis.

It has not been my hope in the foregoing contribution to offer much that is new on the much-studied but never-hackneyed subject of pulmonary consumption. Some of the results arrived at are at variance with those of others, while many of them are simply in corroboration of past researches. In apology I would state, in the language of Professor Flint,[2] that "my object has been to study by means of numerical analyses my cases without reference to similar researches by others; and if the results of my analytical investigation are in conformity with those which have been already obtained this is certainly no disparagement of their correctness, nor does it impair their value as a contribution to our knowledge."

[1] This was a hereditary case.

[2] Op. cit.

In conclusion I would offer my acknowledgments to Prof. Stephen Smith Burt, M.D., whose valuable clinical lectures have suggested many of the points in the foregoing investigation, and in whose departments at the Post-Graduate School and at the Out-door Department of Bellevue Hospital the cases were observed.

VOLVULUS OF THE SIGMOID FLEXURE RELIEVED BY OPERATION—DEATH FROM PNEUMONIA SIX DAYS LATER.[1]

By R. VAN SANTVOORD, M.D.,

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H. T——, male, aged forty-five years, had been for thirteen years an inmate of the Randall's Island Pavilion for the insane. He was demented and unable to give any account of his own condition.

On June 30, 1885, he was observed to moan incessantly, to walk bent forward as if suffering from pain in the abdomen, and to go frequently to the water-closet.

On July 1st, being removed to the hospital, the abdomen was found to be slightly distended and quite tense. He made frequent attempts to have a passage from the bowels, but nothing came away. Abdomen somewhat tender.

On the third day of his illness abdominal distention was greater. Tenderness persisted. Bowels had not moved. Appetite failed.

On the fourth and fifth days of his illness, first castor-oil alone and afterward with croton-oil were given without effect. An injection brought away a small lump of hard fæces. Some hiccough occurred, but no vomiting.

July 7th, the eighth day of his illness, I saw him for the first time. The abdomen was greatly distended, very tense, and universally tympanitic on percussion. As the patient was said to be a stick eater, impaction of fæces was regarded as probable, and an injection was given with a stomach-tube and hydraulic pressure was attempted, at first in vain, owing apparently to the great distention of the abdomen. A moderately coarse aspirator needle was then introduced into the right lumbar region, that region being chosen because, owing to the tenesmus, the obstruction was supposed to be in the large intestine near the rectum, and the cæcum consequently was regarded as the most eligible portion of the gut to tap. A large amount of gas escaped. The rectal tube was re-introduced and pushed forward as the gut became distended with fluid. In all, twenty inches of tube and about a quart and a half of water were introduced. The abdomen was as tense as before. No fluid escaped on withdrawing the tube.

During the next two days other attempts were made to administer forced injections, but without result. A review of the case now led me to make a diagnosis of volvulus of the sigmoid flexure, based on the following grounds: The long duration (nine days) and absolute character of the obstruction, the absence of acute symptoms, such as vomiting and manifestation of great pain, and the large distention of the abdomen, pointed to obstruction of the large intestine. The large amount of gas drawn off from a single puncture pointed to the tapping of a distended colon rather than to a knuckle of small intestine. The tenesnus, the very great distention of the abdomen, and the absolute binding up of the bowels were regarded as pointing to volvulus of the sigmoid flexure, that particular portion of the gut being decided on because it is most frequently affected. Lastly, the retention of a large enema after passage of twenty inches of tube seemed best accounted for by supposing that the tube had passed an obstruction, which had recurred with its withdrawal. The large amount retained and the great tension of the abdomen rendered the classifying of this retention with that phenomenon, as ordinarily seen in the

[1] Read before the New York Pathological Society, January 27, 1886.

normal gut, hardly allowable. This last factor, together with the subacute course of the case, seemed to point to a not very tight twisting of the bowel.

The patient's pulse was rapid. He had no fever. His general condition was unfavorable. July 8th, ninth day of illness, being on duty at the time as visiting surgeon, as well as physician, I determined, in spite of unpromising conditions, to operate. The abdomen was shaved and washed with hot water and soap, followed by hot (1 to 200) carbolic water. The hands of the operator were carefully washed in the same solution before and at intervals during the operation. Clean towels wrung out of the same fluid were kept around the abdominal incision.[1] The patient being etherized, an incision four inches long was made in the median line just below the umbilicus. Under the peritoneum, before its incision, were observed bubbles of gas, which explained a crepitation which had been felt over the prominent portion of the abdomen since the puncture of the gut, two days before. On cutting through the peritoneum a small amount of slightly turbid, odorless fluid escaped. A congested, largely distended gut presented at the bottom of the wound. An aspirator needle was introduced obliquely into the presenting gut to reduce tension sufficiently to admit of safe exploration, and much gas was drawn off. On passing the hand into the abdomen the sigmoid flexure was found to have made a half twist on its axis, the lower and right portion of the loop having been carried forward and to the left, and the left and upper portion, which presented in the wound, backward and to the right. The distended flexure extended about two inches above the umbilicus, and one and a half inch to the right of the median line. Reduction was easily effected by drawing the lower limb forward and to the right with the left half hand and tucking the upper limb backward and to the left with the fingers of the other hand. It was now possible to follow the large intestine from the contracted rectum to the equally contracted descending colon, and to satisfy one's self that the obstruction was overcome. On the apex of the sigmoid flexure was observed an irregular, red, rough surface about two inches by four inches, found subsequently to be the muscular coat of the gut laid bare by rupture of the peritoneum.

The cæcum being greatly distended, the aspirator needle was thrust into it and much gas was withdrawn. On drawing out the needle a flow of gas continued. It was thought best not to attempt to suture the opening in the greatly distended gut, but to trust to the closing of the opening when the bowel emptied itself in the natural way. The peritoneum and external parts were closed separately with carbolized silk sutures. A copious flow of fluid fæces took place from the anus before the abdominal cavity was closed. The wound was dusted with iodoform, the sutures reinforced by rubber plaster, and a large pad of carbolized gauze and absorbent cotton was firmly bandaged over all. During the operation the pulse rose from 120 to 140. Temperature before operation, in rectum, 100°.

For three days the patient did fairly well. He had several loose passages a day. The abdomen became sunken. Two quarts of peptonized milk in twenty-four hours, whiskey, and morphia were given. On the fourth day the temperature went up and the patient began to lose strength. No abdominal symptoms manifested themselves, except that the abdomen again became distended in the epigastric region for two or three days before death. The wound looked healthy, no symptoms pointing to lung trouble were observed. It was not thought prudent to attempt physical examination of the posterior part of the chest. Death occurred from gradual exhaustion, six days after the operation, and fifteen after the first symptoms of obstruction were observed.

Autopsy, fourteen hours after death (unessential parts omitted).—The peritoneum was firmly closed at the site of the abdominal incision. The cutaneous incision was closed only for its lower inch, the rest of the wound gaping when the sutures were cut. There was no sign of inflammation, except a few drops of pus in the track of one of the cutaneous sutures.

The posterior half of the upper and middle lobes, and the posterior two-thirds of the lower lobe of the right lung were in a state of gray hepatization in spots apparently undergoing purulent softening. At the apex of the left lung was a cavity, the size of a pigeon's egg, filled partly with cretaceous, partly with thick, curdy matter. A few old cretaceous nodules were scattered through other parts of the lung. The posterior two-thirds of the lung was in a condition of red hepatization, with here and there lobules which were yellow and apparently approaching a cheesy condition. The portions of lung not hepatized were very œdematous.

One kidney presented a soft, white neoplasm, the size of a small marble, in the cortex, shown by the microscope to be an alveolar carcinoma. Kidneys otherwise normal.

Stomach.—Mucosa slightly thickened and injected.

Intestines.—The sigmoid flexure, cæcum, and transverse colon were much distended, the latter being about four inches in diameter. A very small amount of transparent fibrin, appearing like post-mortem coagulation of ascitic fluid, was seen here and there on the intestines. The intestines looked at points somewhat injected and dark from commencing putrefactive changes, but no peritonitis was present. Over the most prominent part of the sigmoid flexure was an irregular tear in the peritoneum, four by two inches. Similar, but smaller, tears existed over the cæcum and transverse colon. The points at which the cæcum had been punctured were represented by round, pigmented spots, perfectly closed.

Small intestine moderately distended. The mucosa of the small intestine was irregularly and slightly injected, and in its lower part thickened. The mucosa of the largely distended cæcum and transverse colon was intensely injected, and appeared to be slightly ulcerated on its surface. The splenic flexure and descending colon, which were contracted, showed an irregular strip of deep and old ulceration, extending longitudinally, above one inch in width, and containing long strips of mucosa, with long and narrow ulcerations on either side. About four inches above the commencement of the sigmoid flexure, the gut was still narrower, and an irregular band of red, slightly elevated tissue presented, extending for about four inches, diminishing and disappearing rather gradually at either end.[1] The mucosa of the sigmoid flexure was thick, œdematous, and injected. Its veins were distended, and tortuous.

The meso-colon of the sigmoid flexure was somewhat thickened, but presented no other abnormality.

Retro-peritoneal glands not enlarged.

In my remarks upon this case, I follow in the main the able monograph of Frederick Treves on intestinal obstruction. According to this authority, volvulus of the sigmoid flexure about its mesenteric axis constitutes about two-thirds of all cases of volvulus. The anatomical condition necessary for its production is said to be a long loop, with narrowing of the meso-colon at its parietal attachment. This arrangement of the parts he states may be congenital, but, as volvulus of the sigmoid flexure is "extremely rare in the young," such a circumstance must be uncommon. Peritoneal adhesions, cicatricial contractions, and above all, the dragging down of the meso-colon by flatus and fecal accumulations in the sigmoid flexure, are the common predisposing causes. The mechanism in my case does not apparently fall exactly under this heading, because there was no appreciable deformity of the meso-colon. I believe that the following is the explanation in this particular case. The descending colon was very much contracted down to its junction

[1] The instruments were kept in 1 to 20 carbolic solution. The silk ligatures used were soaked in the same.

[1] Microscopic examination showed that this thickening was entirely inflammatory.

with the sigmoid flexure, the transition at that point from a rigid to a very distensible portion of gut being marked. It is conceivable that at the time of the occurrence of the volvulus the sigmoid flexure was distended by flatus, twisted upon itself during its vermicular contraction, and that the lower limb of the flexure became caught and retained between the shoulder formed by the abrupt transition from the stenosed to the dilated gut immediately below and the anterior abdominal wall. I have illustrated my idea on the little cadaver here presented. The ulceration and inflammatory changes in the bowel were probably due to the constipation common in the insane, the irritant effect of the bowel contents being increased by the foreign bodies which he was alleged to swallow.

On analyzing the symptoms presented during life, the combination of tenesmus, absolute constipation, and rapid distention of the abdomen were highly suggestive of the condition found. Marked tenesmus points almost invariably to a lesion of the large intestine, though Treves records two cases of volvulus of the lower part of the ileum accompanied by severe tenesmus. It occurs, also, to some extent in intussusception of the small intestine. It was a marked feature in fifteen per cent. of cases of volvulus of the colon, and in fifty-five per cent. of cases of acute and subacute intussusception, the latter usually involving the colon. In these latter cases absolute constipation is "extremely rare" (Treves). Moreover, distention of the abdomen is rare in these cases, also. Whether or not existing tenesmus depends upon stricture or other lesion of the large intestine in a case of intestinal obstruction can best be determined by the previous history, a source of information which my patient's mental condition rendered unavailable. In many cases of volvulus early development of peritonitis, commencing in the twisted meso-colon, causes a local tenderness which is of importance in diagnosis. In my case the patient's mental state rendered it impossible to form any accurate idea of his subjective symptoms. As there was no peritonitis, there probably was no local tenderness. The absence of vomiting and of the other symptoms of great acuteness of attack, such as marked shock and suppression of urine, pointed in a general way to obstruction of the large intestine. Treves has pointed out, however, that these symptoms depend rather "upon the nature of the occlusion than upon its situation." It is the very lesion which I am now discussing which "may present symptoms as violent and as rapidly developed as any met with in acute strangulation of the small intestine."

The fact that a very large amount of gas was drawn off from a single puncture at the site of the ascending colon seemed to prove that the distended colon had been punctured and not a knuckle of small intestine. This is a diagnostic point accidentally hit upon, to which I have seen no reference, and which seems to be of value. Whether or not tapping of the gut is justifiable, except as a step preliminary to operation, may be an open question. The general reduction of abdominal tension by aspiration or puncture has been recognized as of value in facilitating diagnosis. A striking exception to the rule in my case was the passage of the tube past the obstruction, twenty inches into the sigmoid flexure, and the retention of a quart and a half of water. As a rule, this is not possible, and enemata only as large as can be accommodated by the rectum can be injected. The deep introduction and injection were possible only after reduction of the tension of the abdomen by the drawing off of gas. The passage of a tube past an obstruction and the retention of a large enema is a source of fallacy to which attention has been called. It has been noted, for instance, in intestinal stricture, in which a mass of hardened fæces acts the part of a ball-valve, preventing the passing downward of fluid. This occurrence in my case I interpreted as indicative of a comparatively slight twist in the gut, and my conclusion proved to be correct.

The use of the long tube as a means of diagnosing the site of an obstruction is one which is recognized as being attended by sources of error. In my case it was, on the occasion above cited, actually pushed through one place of obstruction. In others, it doubles back upon itself. It is claimed by some observers that it is possible to reach even as far as the transverse colon or beyond with a tube introduced into the rectum. Treves states that he has "good reasons for doubting if these rectal sounds ever go beyond the sigmoid flexure."

I desire in this connection to call attention to the fact that a sound, in going round the curves of a normal sigmoid flexure, is of necessity guided by the inner concave surface of the gut, rendered resistant by distention, and must be equal in length to the gut traversed. The normally developed large intestine, from the anus to the splenic flexure, may be roughly stated as being from one-half to two-thirds the length of the individual. To reach the splenic flexure in an adult, therefore, would require a tube at least two and a half feet, and oftener three feet or more in length. In experimenting on the bodies of infants, on one occasion I succeeded in passing a catheter into the transverse colon after the abdomen was opened. How often, if at all, this can be done in the living, unopened subject, I cannot say. It, at least, can be positively affirmed that the passage of a sound in a straight, or approximately straight, direction in a person with a normally developed sigmoid flexure, from the anus to the umbilical region, or even as high as the diaphragm, proves nothing except that the sigmoid flexure is very distensible and movable, or that the operator has perforated the gut, a thing which is not very difficult to do, at least in a dead baby. With regard to the treatment, the administration of cathartics in the early stage of the case, when the patient was supposed to be suffering from ordinary constipation, was of course wrong. After the true nature of the case was suspected they were of course discontinued. The error of the House Physician was excusable, owing to the frequency of obstinate constipation in the insane, their insensitiveness to grave affections, and, in demented cases, their inability to describe their ailments.

The result of the intestinal puncture, in admitting gas to the peritoneal cavity, was an illustration of the danger of this procedure, though it did not have any obviously bad effect on the patient's condition. This may have been due to the fact that the gas was not absorbed. At least quite a number of bubbles were still present under the peritoneum at the operation, two days after the puncture. The great tension of the abdomen probably accounts for this non-absorption, the relief caused by the withdrawal of gas being quickly offset by the injection of water. This episode suggests the possibility that the distention of the intestines in peritonitis may be conservative, by preventing or diminishing absorption of septic matter. In some cases of volvulus of the sigmoid flexure, however, the distention has been so great that death resulted apparently from pressure upon the thoracic viscus.

Laparotomy for volvulus has proved very unsatisfactory. The cases are usually very acute. The enormously distended coil of gut is difficult to handle. Even when reduction is effected the predisposing cause remains and recurrence is probable. In my case the coil of gut was comparatively small. Reduction, or even safe exploration of the abdomen, would have been impossible without preliminary aspiration of the intestine. It is to be remarked that the introduction of an aspirator needle obliquely through a chosen portion of exposed gut is materially safer than the haphazard thrusting of a needle through the walls of an unopened abdomen.

To prevent recurrence it has been proposed by Treves to fix the apex of the coil in the abdominal wound and make an artifical anus.[1]

In my own case it seems reasonable to suppose that an earlier operation would have resulted differently.

[1] MEDICAL RECORD, vol., xxviii., p. 171.

Careful regulation of the bowels would perhaps have been more successful in preventing recurrence than in the more common cases of narrow pedicle, long loop, and more extensive twisting of the intestine.

Clinical Department.

AN INSTANCE OF REMARKABLE FECUNDITY.

Dr. Joseph N. Steedy, of Cambridge City, Ind., reports the following rare case: On May 3, 1884, he delivered Mrs. S——, aged sixteen, of a healthy female child, weighing nine pounds. On February 2, 1886, he delivered the same woman, then eighteen years of age, of three female children. All were born alive and weighed, respectively, four and three-fourths, four and one-fourth, and five and a half pounds. The first presented by the vertex, the second by the face, and the third by the foot; each in a separate sac. There was one large placenta, the three cords being attached to the margin at about equal distance from each other. There was about thirty minutes' interval between each birth. These children were born under the most unfavorable circumstances, and with a temperature outdoors of from 10° to 18° below zero. They were all alive at the time of Dr. Steedy's report, and seemed as strong and vigorous as children of their weight usually are when born singly.

ANTIPYRETIC TREATMENT.

Dr. M. A. Veeder, of Lyons, N. Y., sends us the following: The use of certain drugs for the purpose of reducing the temperature is very liable to become a mere matter of routine. The ease and certainty with which fever is detected by means of the clinical thermometer leads to the habitual use of this instrument, with the effect of concentrating the attention upon changes of temperature to the neglect of other symptoms. The obvious consequence of this tendency is an undue reliance upon fever mixtures of one sort or another. In regions where this therapeutic fashion holds full sway but few patients escape being dosed with quinine, aconite, the salicylates, antipyrin, or some other wonderful antiphlogistic. Unquestionably such drugs have their proper uses, but they should not, therefore, be employed haphazard in every case of elevation of temperature. In fact, their routine use does harm by preventing the adoption of measures having real efficiency. In typhoid fever, for instance, it should not be forgotten that healing the ulcerated bowel moderates the fever most effectually. It has been the fortune of the writer to see an extremely severe case of typhoid recover without the use of any of the ordinary antipyretics, the high temperature as well as the other symptoms yielding under treatment directed almost entirely to remedying the condition of the bowel. Thorough digestion of the nourishment given, and the use of turpentine, bismuth, and opium, in accordance with their well-known effects, were the means employed. The principle involved in this method of treatment is to attend first to the primary lesions of the disease rather than to its symptoms. Fever will cease if the disorder upon which it depends has been remedied. Thus fever dependent upon indigestion can be relieved, not by aconite or quinine, but by clearing out the bowels. A stimulating expectorant like carbonate of ammonia, liquefying and removing foul accumulations, will often have a more decided effect upon the temperature than any of the regular antipyretics. In case of sore throat with bad breath, chlorine water, attacking the disorder in its very seat, may relieve all the symptoms, feverishness included. Certain malarial fevers may have their power broken by methods that do not involve the swallowing of any drugs whatever; only clean out the filthy cellar or the nasty drain, or trap the sewer on the premises, and fever takes its departure like a whipped cur. Improper splints or bandages may cause feverishness after surgical operations. In such cases, instead of dosing with quinine, smooth out the wrinkles and put the wounded part in as comfortable a condition as possible, and the patient becomes as serene as a morning in May. Puerperal fever not unfrequently disappears, as if by magic, when the uterus has simply been freed from malodorous materials, and thoroughly disinfected. In dealing with wounds and sores generally, absolute cleanliness is the best antipyretic. In fact, the whole subject of antiseptic treatment, which looms up so largely in these days, may properly be regarded as but a phase of the subject of antipyretic treatment. As a result of modern researches into the nature of disease-germs and wound-infection it is evident that physicians are fast becoming better able to deal with the causes as well as the symptoms of disease. It is safe to say that the time is approaching when Medicus will no longer thrust a fever thermometer beneath his hapless patient's tongue, and then with an air of vast scientific superiority prescribe a fever mixture hap-hazard.

DISLOCATIONS OF THE SHOULDER-JOINT.

Dr. Thomas H. Manley, of this city, writes that his experience during the past year with luxations of the shoulder has led him to regard the accident as a much more serious one than is generally supposed. It is impossible to tell from inspection, immediately after dislocation has occurred, how easy or how difficult its reduction will be; and after repeated attempts at reposition have been made without success, another effort, perhaps by another surgeon, may be followed by the desired result. He says that of 10 cases seen by him in the past year, 8 were subglenoid, and were easily reduced, while 2, which were subcoracoid, were absolutely irreducible. In the successful cases ether was used only once, its administration being required on account of the severe pain. In one of the irreducible cases, occurring in an epileptic, the effect of ether was to cause a tetanic rigidity of the muscles, which, at times, became so general and so marked as to interfere with respiration. The writer believes that ether is seldom required, despite the generally accepted opinion to the contrary. Its principal value is to relieve pain, but it is questionable whether the relaxed state of the muscles which it induces is of any real value to the surgeon in the majority of cases. Dr. Manley sums up with the following conclusions: 1. The surgeon should not attempt the reduction of a dislocated shoulder without the aid of an experienced assistant. 2. Without great caution in manipulation and care not to use violence, he may very seriously injure the joint by lacerating the tissues, or fracturing the bone. 3. With the best directed efforts some dislocations of the shoulder cannot be reduced.

A FAILURE WITH COCAINE.

Dr. Charles B. Kelsey, of this city, writes: The successes of cocaine are so many, and the failures so few, that each of the latter is of interest. My own was in a strong, healthy man, aged thirty-one, suffering from an ulcer within the rectum. Desiring to dilate the sphincter, and make an application to the diseased spot, I injected forty minims of a four per cent. solution, ten minims each in four different spots around the anus. There being no appreciable effect after fifteen minutes, I again injected fifteen minims of the same solution at two other points—fifty-five minims in all. Ten minutes after the second injections I dilated the sphincter, and although I cannot be sure that the cocaine did not lessen the pain, the effect was not at all such as I desired. The constitutional effects, however, were well marked. One week later I repeated the same operation on the same patient, beginning with thirty minims of a four per

cent. solution, and following it in ten minutes with fifteen minims more. The injections were made at four points in the circumference, the needle being entered just within the anus. The sensibility was tested every two minutes after the first injection; the pain of the punctures for the second injections was fully as great as for the first, and after twenty-five minutes I operated without the least appreciable benefit from the cocaine. The article was good, as is proved by my having used it two days before with perfect success; and the failure was not due to the method of application, because I have applied it in the same way to many other cases of rectal operations with perfectly satisfactory results.

Progress of Medical Science.

BLINDNESS DUE TO SIMPLE ANÆMIA.—An interesting example of the possibility of simple anæmia producing complete blindness has lately been seen by Professors Litten and Hirschberg in Berlin. The patient was a girl, aged fifteen, who for some short time previously had noticed that her sight was becoming dim, and who for the last two days had been quite blind. She was well formed and stout, but pale and badly nourished; the menses were regular and abundant. She complained of spasmodic pains in the stomach, and this probably was the cause of the malnutrition. The internal organs were healthy; the heart-sounds clear; there was a loud hum in the jugular veins; pupils equal, dilated, and insensitive; sensorium normal; amaurosis complete; papillæ swollen; optic nerves slightly reddened and dull, the edges much swollen; veins distended and contorted; urine normal; blood thin and bright, presenting the well-known characters of anæmic blood—mycrocytes, club-, pear-, and pessary-shaped blood-corpuscles; white corpuscles slightly increased. Anæmia was evidently the real cause of the amaurosis. The girl was put to bed and well fed, and syrup of iodide of iron prescribed. The stomach trouble and appetite soon improved, and in a month's time the condition of the blood and the ophthalmoscopic appearances had become normal. It is worthy of remark here that the appearances were not such as are found in pernicious anæmia—complete pallor of the papillæ, bright redness of the veins, and streaks of blood. The prognosis therefore was good, and was fully justified by the result.—*The Lancet.*

FALSE TABES.—Under the name of "tabes dorsalis illusoria," Dr. Kovalevski reports a case of hysteria in which the symptoms were very similar to those of locomotor ataxia. The patient was a man, thirty-seven years of age, of previous good health, who had experienced considerable mental anxiety. He had pain in the back, lancinating pains in the limbs, an uncertain walk, especially with closed eyes and in the dark, weakness and heavy feeling in the legs, a feeling of constriction around the body, tightness of the chest, vertigo, constipation, and retention of urine. The patient was sleepless and exhibited suicidal tendencies. Objective examination revealed nothing abnormal. A course of treatment by excessive physical exercise, general faradization, good nourishment, and douching brought about a complete cure in twenty-three days.—*Centralblatt für klinische Medicin*, January 2, 1886.

PSEUDARTHROSIS.—M. Berger presented to the Surgical Society of Paris a specimen of pseudarthrosis of the leg taken from the body of a man fifty-seven years old. The condition had existed exactly fifty years, and the abnormal articulation was remarkable for its perfection. The upper fragments of the tibia and fibula were cup-shaped and received the ends of the lower fragments. There were no cartilages, but the extremities of the bones were eburnated, and were surrounded by exostoses similar to those seen in arthritis deformans. A capsule formed of thickened periosteum covered the ends of the broken fragments, and held them together. The tendons ran across this false joint in true synovial sheaths. There was no apparent atrophy of the neighboring muscles, but the foot on this side was only three-fourths of the size of the other, the bones of the leg were shortened, the patella was small, the corresponding half of the pelvis was less developed, and there was a lateral spinal curvature, the body being inclined to the affected side. M. Trélat, in commenting on the case, was inclined to the opinion that the pseudarthrosis and atrophy were the result of a nervous lesion, as, for example, atrophic infantile paralysis; for there was considerable bony atrophy, and the fracture had taken place at an early age, when pseudarthrosis very rarely occurs.—*La France Médicale*, January 16, 1886.

THE ABDOMINAL BANDAGE AFTER LABOR.—Professor Czerny writes in the *Centralblatt für Chirurgie*, of January 16, 1886, that he has been struck with the fine figures of English ladies, even after they had gone through numerous pregnancies. He attributes this preservation of form to the habit of English accoucheurs of applying an abdominal bandage immediately upon the completion of labor, and urges the adoption of the practice by German physicians and midwives. It is interesting to learn that this idea has reached Heidelberg, and there is reason to hope that the Teutonic matron of the next century will be happy in the possession of a smooth and finely rounded abdomen.

PESSARIES.—Dr. Leopold Meyer writes upon this subject in the *Hospitals-Tidende*, and recommends a pessary formed of copper wire covered with a soft rubber tube. The rubber is to be painted over with iodoform-collodion (1 to 15) and may then be retained for three or four months in the vagina without acquiring any odor.

LATE HEREDITARY SYPHILIS.—Under this name are included the manifestations of the so-called tertiary period of syphilis which make their appearance at a considerable period after birth, usually about puberty, without any prior symptoms of the disease. Zeissl has collected the records of over a hundred such cases and adds a number seen by himself. The disease affects chiefly the osseous tissues, more especially the bones of the nose, and also the nervous structures and the organs of special sense. The author asserts that Hutchinson's triad (deformity of the permanent incisor teeth, parenchymatous keratitis, and diseases of the auditory apparatus) points only to a probability of the existence of hereditary syphilis; these symptoms may be present without syphilis, and may be absent when the disease is actually present.—*Centralblatt für klinische Medicin*, January 16, 1886.

TURPENTINE IN THE TREATMENT OF FISTULÆ.—Dr. S. Cecchini has employed injections of oil of turpentine in the treatment of fistulæ and indolent sinuses, and reports in detail a number of successful cases. The turpentine acts both as a stimulant to the granulations and as an antiseptic. In seven cases of anal fistulæ he obtained a perfect cure in five. The injections were made by means of blunt pointed cannulæ, and were repeated at intervals of three or more days. The pain caused was only moderate, but when necessary, the turpentine was diluted with almond or olive oil. In four cases of caries of the temporal bone in children a complete cure was obtained in from two to three months. The fistulæ were washed out with a solution of boracic acid before each injection. A like favorable result was obtained in eight cases of dental fistulæ complicated with more or less extensive caries of the alveolar process and jaw. One case of fistula of Steno's duct was cured by eight injections in thirty days. In a number of other cases of indolent fistulæ not due to caries, a favorable result was obtained in from ten days to a month. Finally, two dissection-wounds which the author had acquired were healed by turpentine in four and nine days respectively. —*Centralblatt für Chirurgie*, January 2, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 20, 1886.

THE LATE DR. AUSTIN FLINT.

DR. AUSTIN FLINT had long been rightfully regarded as the best representative of the best type of American physician. In personal character, in scientific attainments, in practical experience, and in the art of dealing successfully with his patients and his fellow-men he leaves behind no equal. Dr. Flint had a presence which inspired confidence, and a genial manner which won friendship and kindly feelings from every one with whom he came in contact. Beneath his geniality, however, was an indomitable will and strength of purpose which he could exhibit when occasion called. He had that fortunate combination of elements in his character which enabled him to achieve the completest success attainable to medical men without awakening envy or creating enemies. Few men have been so justly eminent and yet so widely beloved and admired.

Dr. Flint contributed largely both to medical literature and medical science. His works and writings were an immense help to American medicine. No other single American author has done so much to give our profession a standing before the world. At various times Professor of the Practice of Medicine in six different medical colleges, his experience and studies were naturally kept broad, while at the same time his knowledge was made exact. This was shown in his systematic writings, which always showed painstaking research, a judicial mind, and were free from any taint of personal bias or useless speculation. We doubt if Dr. Flint ever had a genuine "hobby;" if so he kept it from his writings.

Dr. Flint's contributions to clinical medicine were numerous, and many of them were positive advances in medicine. Perhaps his name will be longest associated with the study of physical diagnosis. Among the earliest to teach the utility of this art, he added greatly to our knowledge of it, particularly as regards the nature of the sounds in pulmonary phthisis and in heart disease.

The honors which Dr. Flint received, especially during the last years of his life, were all that medicine can bestow upon its most favored followers. Though an old man, age had not in the least dimmed his faculties or abated his activity, and his death seemed as premature as it was unwelcome and sad. American physicians can never cease to honor his memory, and we trust will never fail to emulate his virtues. If our art is not the greatest, it can at least be proud that it produces such men as the late Austin Flint.

THE RHYTHM OF FEVER.

A CORRESPONDENT sends us an interesting and very clearly presented *résumé* of the arguments in favor of the nervous origin of fever. He correctly states that the view that fever is proximately a neurosis is now established on almost impregnable ground. The opinions of Liebermeister, and the experiments of Wood, to which we may add those of Eulenberg and Landois, of Sachs, Hitzig, and Bechteren, are referred to and quoted.

But beyond this our correspondent offers a suggestion of his own. He says: "The phenomena of fever are better explained upon the supposition of the disturbance of a heat-centre by applying one of the corollaries of the persistence of force, as given in the principles of evolution, viz., that of the rhythm of motion. Mr. Spencer has shown us that, as a deduction from the persistence of force, there must follow the fact that all matter is in a state of vibration which is rhythmic in character. Periodicity, rise and fall, maxima and minima, this is the law of all matter whether molecular or ponderable. Applying, then, the rhythm of matter to the hypothesis of a thermal centre, we see that the daily oscillations of that centre, the rhythm, rise and fall, may correspond to the diurnal rise and fall of temperature which we know takes place in the body in health. Suppose this centre to be disturbed by shock of certain kinds, then the molecules in their vibrations will take a wider range of divergence, and vibrating across the median line of normal temperature will, as they swing to one extreme, unduly stimulate the inhibitory power of its conducting nerves, and depress the heat-production and heat-dissipation to so low an ebb that a degree of cold, perhaps a chill, results. Then as the oscillation carries it across the median line of normal temperature to the limit of its opposite range the undue stimulation will be succeeded by its opposite of partial paralysis of its inhibitory power, with the resultant of over-production of heat. Again, as the extreme of paralysis is reached and the oscillation tends to resume its equilibrium, at that point as it is reached the heat-production and heat-dissipation again balance each other, and the normal temperature is the result. This moving equilibrium, as Spencer denominates it, may be maintained here, or the shock may have been sufficient to cause successive vibration across the median line of normal temperature with their resulting effects of chill, fever, and period of intermission, or in other words, all of the phenomena of intermittent fever, the rhythmic rise and fall of which would correspond closely with the rhythmic vibrations of the nerve-centre, which are a necessity as a corollary of the persistence of force. Or suppose the primary shock to have been sufficient to displace the oscillations entirely to one side of the median line of normal temperature. In jelly-like masses of matter, we may see such vibration entirely to one side of the perpendicular line of gravity.

"In such a case there would ensue a continuous paralysis of the inhibitory forces, resulting in a steady overproduction of heat, but varying daily as the oscillations occurring in their range outside o the median line approach first to the normal and then swerving outward to the range of greatest limit. Thus may the daily rhythm go on for weeks, in conjunction with its outer rhythmic expression, in enteric fever, until its tendency to seek its normal

equilibrium being greater than the primary shock the oscillations finally touch the normal point and rest there, or perhaps swing outward again for a few times, as we sometimes see in the closing days of a fever, to ultimately resume their wonted position of a moving equilibrium across the line of normal temperature.

"These may seem but idle speculations, but with the exception of the assumption that the rhythm of fever corresponds with the rhythm of the molecular mass in the heat-centre there is nothing speculative about it.

"It would account also for the self-limiting character of fever, since the tendency of all bodies in motion is to rest; the original shock to the heat-centre having spent itself the tendency of that centre would be to a state of rest and thus to a limitation of the fever. Whether the original shock to the nervous centre be due, as Liebermeister surmises, to the 'reflex irritation of cold,' or whether it is due to the material impact of a germ is a matter of no moment as regards the rhythm of fever."

We shall dismiss our correspondent's suggestive communication with the single comment that he appears to forget that in a chill both the temperature of the body and the heat production are increased, though heat excretion is temporarily lessened.

RELATIONS OF STATE AND LOCAL HEALTH AUTHORITIES.

In proportion as the population of a country grows more dense the struggle for health becomes more difficult, while at the same time it is the more necessary to the individual, since existence is harder and sickness takes away the ability to earn. The establishment of certain laws and regulations designed to improve the sanitary conditions of localities thus becomes imperative. That the laws at present in force are not perfect few will be disposed to deny, but they must answer until new regulations, better adapted to the purpose, can be formulated and put into execution.

Dr. Maurice Perkins, of Schenectady, sends us an interesting article, embodying some suggestions on this point, which we reproduce in brief. He does not favor the idea of referring matters of this sort to commissions, but thinks they should be subjects of political interest, to be discussed freely by all voters. It would be possible, he says, for some State officer, as the State Engineer, to have a health department under his control, and for its success and usefulness the people could hold him responsible at the polls. "But it is to the local health officer," Dr. Perkins writes, "that we should look for the best results, and everythin snould be done to magnify his importance, and care should be taken that he is fitted for his work. I would have him appointed directly by the official head of the city or town, and selected from a list of candidates who have passed a proper examination. I would have the state officer a court of appeal to settle differences between health and other local authorities as to powers, etc., and would have him in constant communication with local officers, demanding from them news of epidemics and such matters, and transmitting the reports to all others, that they may be informed as to possible danger. He should offer prizes for the best yearly reports from health officers, and should encourage the publication of original papers on hygienic subjects." The writer thinks that the State should not interfere in the matter of sewerage or the water-supply of towns, but should leave such matters to the consideration of the voters in the locality interested, and he also disapproves of the sending of experts, either medical or sanitary, from one place to another, believing that, were local authorities relied upon to a greater extent, they would soon manifest their competency for the work imposed upon them. In short, Dr. Perkins believes thoroughly in home rule, as far as sanitary matters are concerned, and he would restrict the power of the State as far as possible consistent with order and the public safety.

A FOOLISH SOCIETY.

The St. Louis Medical Society has passed a resolution positively prohibiting the publication of its transactions, or any part or synopsis thereof, in any medical journal, and directing that "no member of or visitor to the Society shall transcribe its proceedings, or any part thereof, for publication, nor publish an epitomization or synopsis of the same."

The object of this act was to prevent the publication of partial and mutilated reports.

The Society is evidently neither wise nor experienced. In time it will learn that seventy-five per cent. of society discussion is rubbish, and that medical journals cannot publish them in full and live. No society can long force upon the public, by "Transactions" or "organs," material not worth publishing.

A NEW FORM OF LUNG DISEASE.

In 1877, Bollinger showed that the disease of cattle ordinarily known as "swell-head" or jaw-sarcoma was due to a fungus, and he called the disease actinomycosis. To Ponfick belongs the credit of having first detected this disease in man.

Since attention was called to it a number of other cases have been reported. Dr. P. B. Conti recently published the history of a case of actinomycosis occurring primarily in the human lungs. He has also collected sixteen other cases, and from a study of them has been able to give a tolerably good picture of primary broncho-pulmonary actinomycosis, or, as it may be called, actinomycotic phthisis. Although nearly all the cases so far observed have been found in Germany, it is not at all improbable that the affection occurs in this country, since the researches of Dr. W. T. Belfield have shown the prevalence of the actinomyces in American cattle. It is all the more important that physicians should have their attention drawn to it, since the disease closely resembles in its general course acute phthisis, while at the same timé presenting some very pathognomonic signs to those who are on the lookout for them.

The disease begins insidiously, the actinomyces reaching the deeper bronchi by inspiration and lodging there. A local irritation is caused, and the patient has the signs of a bronchitis. This is very soon followed by a circumscribed broncho-pneumonia. The sputa, if examined in this stage, would reveal the real trouble, but it could be detected in no other way. The disease extending, causes peri-bronchitis and interstitial pneumonia, and then the pleura becomes involved. There is

sometimes a circumscribed adhesive pleuritis, at other times a sero-fibrinous exudation or a purulent pleurisy. Some cases apparently begin in the pleura, but it is probable that even here there was originally a pulmonary invasion which speedily extended to the pleura. In the last stage of the disease the thoracic wall itself is invaded, a peri-pleuritis taking place. Indolent, œdematous tumors appear, which are often the first thing that calls attention to the true nature of the trouble. These tumors finally suppurate and may open and discharge externally.

The disease runs a course lasting about ten months and is, we believe, always fatal. Wasting is very slow. The course is generally apyretic, and the chest finally becomes distorted. Only a microscopic examination of the sputa can positively differentiate the disease from cancer.

It is to be hoped that American physicians living in the West, where the opportunities for observing this disease occur, will report any cases that come under their observation. While pulmonary actinomycosis can probably not be cured, it can at least be prevented.

The complications which may arise are those of metastasis, the actinomyces getting into the blood-vessels and giving rise to embolisms. The general symptoms are much like those of a catarrhal phthisis, or perhaps still more like those of pulmonary cancer. In the later stages the disease seems to resemble septicæmia.

Characteristic features of it are scanty sputa, disagreeable in odor, having a currant-jelly like appearance, containing no blood, but showing under the microscope the characteristic appearance of the actinomyces.

HOSPITAL MANAGERS AND MEDICAL BOARDS.

In the relations between the governing boards of hospitals and the medical staff there often arise serious difficulties, ending but too uniformly in the humiliation of the latter. With hardly an exception it is the medical men who are defeated and made to suffer when any contest arises. The managers control the revenues, the doctors contribute their services, and are often made to feel that they are in fact only a higher grade of employee.

Occasionally, however, the physicians make a good fight, and even a successful one, against the unjust usurpation of their privileges by the governing boards. Such a case has occurred in Halifax, N. S., and the particulars of it are instructive. The Medical Staff of the Provincial and City Hospital had for seven years been in the habit of appointing the House Surgeon after a careful competitive examination, awarding the appointment to the candidate who took the highest mark. Last spring the usual examination was held, and the appointment of Dr. Goodwin was recommended to the Board of Commissioners. These latter gentlemen, instead of confirming him, appointed a Dr. Hawkins, who had stood much lower in his examination record, and who was not, therefore, recommended by the Board. The Medical Board protested and asked for explanations, but being treated rather curtly, after negotiating for six days, they all resigned. In this act they had the uniform support of the profession of the city at first. Sad to relate, however, later in the day some men finally consented to take the vacant places.

The old Medical Board has, however, wisely continued its struggle, and is, we are informed, securing the support of the profession throughout the province. A petition has been drawn up, addressed to the provincial Government, asking that the matter be investigated, and that the authority of the Medical Board be given a definite legal status. This petition is being extensively signed by the physicians of Nova Scotia, and we trust that they will unite in supporting the Board in its struggle. While the question at stake is not a great one, it involves a principle, and if the physicians succeed in establishing their rightful demands, it will be a helpful precedent in future controversies.

THE "DRY TREATMENT" FOR UTERINE DISORDERS.

In a paper read before the St. Louis Obstetrical and Gynecological Society, Dr. George J. Engelmann brings forward what he terms a new departure in uterine therapeutics. Preliminary to a description of his own methods, Dr. Engelmann gives an interesting sketch, showing the national peculiarities of gynecologists, so far as topical therapeutics is concerned. "In Germany," he says, for instance, "at one time the washing of cervix and vagina with strong solutions was an almost universal practice; in many clinics it was customary, whether other treatment was applied or not, to wash cervix and vagina with strong solutions of sulphate of copper, or carbolic acid, through the Ferguson speculum. In France—I am only speaking of methods which are not used here—they use the cautery, and medicated supports to the uterus; the thermo-cautery also is a specialty in French gynecology; a common usage is to apply a remedy in a small semicircular bag made of muslin or mosquito-bar, which at the same time serves as a support for the uterus. This country is peculiar in its use of nitrate of silver and iodine, though in England it is used in a similar way, but by no means as freely and as commonly as here."

Dr. Engelmann's new departure consists essentially in the use of medicated absorbent cottons, with or without the addition of a powder-blower, or gelatin pencils. The medicated tampons have the advantage, we are told, of giving support to the uterus, of acting continuously and evenly, and of being cleanly. The tampons may also be made of jute, and perhaps the best combination is a medicated jute tampon covered with a layer of the softer cotton. The powders used are those of alum, bismuth, tannin, salicylic acid, iodoform, and zinc. Next after these in value are the gelatin or iodoform pencils. The cotton or jute used is medicated with iron, boracic acid, alum, tannin, iodine and other substances.

By the use of the powders or pencils and tampons, in endocervicitis, erosions, and other chronic uterine troubles the profuse discharge is often checked very promptly, and a healing process set in action. Dr. Engelmann does not recommend the glycerine tampons which are considerably used in this city. His "new treatment," though a good one, is not, we venture to say, very new, something very much like it, *i.e.*, the use of powder and cotton tampons, was, we believe, at one time quite the routine practice in Vienna. In this city also cotton tampons medicated with alum and other powders have been used for six or more years.

THE PROPHYLAXIS OF GONORRHŒA.

PREVENTIVE medicine is certainly attaining a catholicity of scope and an unexpected multiplicity of ramifications which ought to gratify its supporters. Dr. Haussmann, of Berlin, applying the same mental machinery of analogous reasoning used by Bishop Butler of immortal memory, inferred that because nitrate of silver prevented gonorrhœal ophthalmia in infants born of women suffering from gonorrhœa, it would also prevent gonorrhœa in persons no longer infants who exposed their sexual organs to infectious influence. By what means he persuaded anyone to an experiment we do not know, but European physicians have a strong influence over their patients, and at any rate, he found that an injection of a two per cent. solution of nitrate of silver into the urethra, at most a quarter of an hour after cohabitation with an infected woman, proved a very effectual means of preventing infection.

Dr. Haussmann speaks only of the male, thus giving a mild suggestion of the Teutonic idea, that woman is a useful breeding and housekeeping animal—but not much more.

A French sanitarian in the gonorrhœal field, however, comes in opportunely, and in response to his natural gallant instincts suggests a remedy for the woman as well as the man. He advises that prostitutes should have on hand a supply of a solution of bichloride of mercury, 1 to 500, this to be used by themselves and their male visitors! Such applications of science are repulsive and degrading, yet we can hardly say that they are wrong. Sexual crime will not be lessened because it involves the danger of disease, but because it causes moral and social injury.

This prying of preventive medicine into brothels imparts to it something of nastiness, but it may be useful for all that.

News of the Week.

THE PHOTOGRAPHS OF CIGARETTE MAKERS.—We have been informed that the photographs to which reference was made in our last issue do not represent, as we supposed, the operatives in the cigarette factories of Richmond, but merely models who pose for various industries. The pictures which are considered objectionable have been withdrawn from circulation by the manufacturers.

HONORS TO M. PASTEUR.—King Humbert, of Italy, has decorated M. Pasteur. The Academie de Médecine has voted the sum of $2,000 for the projected Pasteur Institute.

LEGAL EXPENSES OF THE NEW YORK COUNTY MEDICAL SOCIETY.—Considerable grumbling is heard over the legal expenses of the County Medical Society. Out of an income of about $4,500, nearly three-fourths went last year into the pockets of the lawyers, the total sum paid them being $3,067.40. A natural inquiry arises as to whether there is any return, aside from the fines paid by quacks, for this extraordinary expenditure. If the sum of $3,000 were annually applied to encouraging scientific work or creating a building fund there would be very little complaint, but the doctor is apparently compelled to pay twice for the enforcement of the laws.

A NEW FIELD OF JOURNALISTIC ENTERPRISE is being opened by the local newspapers. It consists in furnishing as news long notices of the lives and successes of certain doctors. An illustration of this is seen in a newspaper published at Westport, Conn., in which a fulsome description of the attainments and skill of a local physician is given. A curious feature in these quack advertisements is that the quack is always anxious to let people know that he has at one time been associated with and taught by eminent and reputable physicians.

COMMENCEMENT OF THE BELLEVUE HOSPITAL MEDICAL COLLEGE.—The twenty-fifth annual commencement of the Bellevue Hospital Medical College took place on March 15th at the Carnegie Laboratory. The address to the graduating class was delivered by Dr. Isaac E. Taylor, the President of the College. Professor Dalton delivered an address in which he eulogized the late Dr. Austin Flint. Diplomas were presented to 139 graduates. The successful candidates for appointment in the Bellevue Hospital were: Hezekiah S. Houghton, Thomas McCann, Witter K. Tingley, and William H. Nammack.

THE GERMAN GYNÆCOLOGICAL SOCIETY holds its first annual meeting in Munich June 17th to 19th of the present year.

TRICHINOSIS IN BERLIN.—Dr. Grawitz, Virchow's second assistant, who gives the course in pathological histology for Virchow, says that about one-third of the cases diagnosed in life as muscular rheumatism are shown, by post-mortem examination, to be trichinosis.—Cor. *Medical Press of Western New York.*

A NEW EMMENAGOGUE.—This is "erotic excitement," and is certaialy in its ordinary form as venerable as the vertebrates. But a correspondent of the *Medical Press of Western New York*, Dr. T. D. Strong, suggests producing it in a scientific and perhaps subconscious way by applying sinapisms to the breasts.

PRAIRIE ITCH is the expressive title of a disease which seems to be prevalent in Texas, Kansas, and other Southwestern States. It is probably due to a parasite, but the editor of the *Kansas City Medical Index* confesses to ignorance of the pathology, while he prints a recipe for its cure, viz., the external use of a solution of sulphuret of potassium, gr. xx. to ʒ j. of water.

A PURE PEPTONE, prepared from milk, has been manufactured by Herr Weyl, of Berlin. It is a colorless powder, soluble in water, and of a not unpleasant taste. Senator speaks highly of it in phthisis and convalescence from typhoid fever.

MEDICAL EDUCATION IN CALIFORNIA.—*The Pacific Medical and Surgical Journal* takes some exception to our criticisms upon the state of medicine and medical education in California. The University Medical College and Cooper Medical College require, we are told, a "scholastic examination" before the Dean prior to matriculation, and three regular courses of lectures. We are very glad to learn that the preliminary examinations have been established, and to testify in general to the excellence of the two schools in question. According to the announcements of 1883, no such examination was required, unless evidence of a fair English education be conside.ed a "scholastic examination."

RESTRICTING THE PRACTICE OF VIVISECTION IN AUSTRIA.—Baron Conrad, the Austrian Minister of Public Instruction, has sent to the medical faculties a circular concerning vivisection. Henceforth it will only be permitted in very exceptional cases, when it is thoroughly necessary, and for important researches. Vivisection can be practised in Government medical institutions only, and then by the professor or *agrégés*. The animals must be previously rendered insensible.

DIPHTHERIA IN NEW ORLEANS has been on the increase in the past few years. In 1885 there were 166 cases reported, with 151 deaths! This shows not necessarily a high mortality rate, but a great neglect in diagnosticating and reporting the cases.

SURGEON WILLIAM A. CORWIN, United States Navy, died on board the steamer Adams, at Panama, on the 10th inst.

MEDICAL ADVERTISING IN CALIFORNIA.—Much discussion has recently taken place in the San Francisco County Medical Society, says *The Pacific Med. and Surg. Jour.*, relative to the extent of advertising that is permissible to medical men. The conduct of a member had been called in question because he placed a card in the programme of a variety theatre, calling attention to his attainments and his preference for certain diseases. This was naturally objectionable to the members of the society, but when the case came up for discussion the business cards of many practitioners were produced, including those of specialists, such as oculists and aurists, to prove that advertising is to a certain extent permissible to medical men, and therefore the question became one of degree.

GETTING A LITTLE MIXED.—Dr. Carl L. Jensen has discovered a way of manufacturing a certain form of pepsin, and has got a patent on it. The *Medical and Surgical Reporter* defends the right of a doctor to take out a patent. The Code says that it is derogatory to professional character for a physician to hold a patent for any surgical instrument or medicine. Our ochre-bound contemporary defends the Code and defends the doctor with his patent.

EMBALMING THE DEAD.—A bill has been introduced into the Rhode Island Legislature providing that no undertaker or other person shall apply to the body of any deceased person, or still-born child, any embalming or otherwise preserving or disinfecting preparation whatever, without having first obtained the consent of the friends of the deceased, and the written permission of the officer having custody of the returns of death in the town or city where the death occurred. The object of the bill is to prevent the hiding of criminal or suspicious appearances of bodies. It is supported by the health officers, but opposed by undertakers.

A NEW FORM OF BLACKMAIL.—Two prominent physicians of Chicago have recently had civil suits brought against them for alleged damages in sums of $5,000 and $6,500, the real animus being, so far as known, the fact that the doctors had sued for the collection of their bills. Inasmuch as it only costs six dollars to commence such a suit against a physician, with no further liability to the plaintiff—whatever may be the result—this appears to be a cheap sort of revenge.

THE FUNERAL SERVICES OF THE LATE DR. AUSTIN FLINT were held at Christ Church, on March 16th. The church was crowded with the friends, colleagues, and pupils of the deceased physician. Hardly a prominent medical man in the city was absent, and the gathering was a remarkable and spontaneous tribute to the memory of the departed. The services were brief and simple.

THE CARTWRIGHT LECTURES.—Dr. William Osler began the delivery of the Cartwright lectures at the Young Men's Christian Association Hall this week. He has chosen for his subject certain questions in the Physiology and Pathology of the Blood.

Obituary.

AUSTIN FLINT, M.D., LL.D.,

NEW YORK.

DR. AUSTIN FLINT died on March 13th, at his residence in this city, of cerebral apoplexy. He had been feeling in his usual good health, and on the day before had attended to his usual professional duties. On midnight of March 12th he uttered a cry and fell on his bed unconscious. He remained in an unconscious state for the next fourteen hours, when death took place. Drs. E. G. Janeway, Isaac E. Taylor, and William T. Lusk were called in consultation, and every effort was made to restore consciousness and avert the fatal issue.

Dr. Flint was born in Petersham, Mass., in the year 1812. He came of a race of English and American physicians. His great-grandfather, grandfather, and father, were medical men, and all obtained more than average eminence. Dr. Flint was educated at Amherst, and afterward graduated in medicine at Harvard in the year 1833, at the age of twenty-one. The first three years of his professional life were passed at Northampton and Boston. In 1836 he went to Buffalo, where he remained until 1844, his prominence at that time securing him a call to the chair of Institutes and Practice of Medicine at the Rush Medical College, Chicago. After a year of that life he returned to Buffalo, where he established the Buffalo *Medical Journal* in 1846, which he conducted for ten years. Meanwhile he was increasing his usefulness in various directions. He was one of the three founders, in 1847, of the Buffalo Medical College, at which, until 1852, he occupied the chair of the Principles and Practice of Medicine. Then he went to the Louisvilie University, holding the same chair in that institution, where he remained until 1856, when he went back to Buffalo as Professor of Pathology and Clinical Medicine. While still holding a residence at Buffalo he passed the winters of 1858, 1859, and 1860 at New Orleans, where he was Professor of Clinical Medicine in the medical school, and was also visiting physician to the Charity Hospital. He changed his home toward the close of this engagement to this city, where he has since remained. In 1861 he became one of the physicians to Bellevue Hospital and was appointed to two Professorships—the Principles and Practice of Medicine and Clinical Medicine at Bellevue, and Pathology and Practical Medicine at the Long Island College Hospital. He remained always with the Bellevue Faculty, but his duties forced him to sever his connection with the Brooklyn college in 1868. In 1872 he was elected President of the New York Academy of Medicine, from which Society he lately resigned.

He continued his connection with the New York County Medical Society, although he was active in the County Association. In 1876 he was a delegate to the International Medical Congress at Philadelphia, where he delivered an address on "Medicine." He attended the Congress at London in 1881, and at Copenhagen in 1884, and had been chosen President of the next Con-

gress, to be held at Washington in 1887. During the winter he was accorded the honor, never before received by an American physician, of an invitation to address the British Medical Association on "Medicine" at its coming meeting. The invitation had been accepted, and he intended to go to Europe in July for this purpose. In 1884 he was President of the American Medical Association. Dr. Flint was a member of a very large number of learned societies in this country and Europe.

As an author Dr. Flint did much for the profession. His "Treatise Upon the Principles and Practice of Medicine," published in 1866, has run through seven editions. Dr. Flint was engaged during the past winter in revision work for another edition. The sales of this book have been phenomenally large, reaching nearly 40,000 copies. A work on "Clinical Study on Heart Sounds in Health and Disease," which he wrote in 1852, received the first prizes of the American Medical Association in 1852 and 1859. His work on "Phthisis," and his "Manual of Percussion, etc.," have long been standard works.

Dr. Flint's real success as a practitioner, and his conspicuous prominence as a teacher and writer, began when he came to this city in 1861. He added lustre to the profession of this city, which in turn was always keenly awake to his merits.

Dr. Flint had never shown any signs of physical decline, or of the approach of senility. His voice was fresh, his step active, and his mental faculties as acute as ever. He had kept up his work of teaching, writing, and practising. It is said that he dreaded a lingering illness; a wish that he might be taken suddenly when his time came was often expressed by him.

At a meeting of the Faculty of the Bellevue Hospital Medical College, held March 15, 1886, on motion it was

Resolved, That this Faculty keenly sympathizes with the wife, son, and family of our lamented confrère, Professor Austin Flint, in their irreparable loss of a tenderly devoted husband, father, and counsellor;

Yet, that in their grief they will find consolation in that they can ever cherish the memory of his spotless life, his greatness, and his goodness;

That the son, grandson, and great-grandson of eminent physicians and surgeons, entrusted by nature with medical skill and sagacity, so nobly fulfilled his mission;

That his powers of thought and action were preserved in their fulness of vigor to the close of his intellectual and benevolent career;

That his prayer was granted in being spared from lingering illness;

That, as he had mitigated the sufferings of others, he himself was saved from suffering;

That after a day and evening of arduous medical duties, he retired to his painless couch of death;

"God's finger touched him, and he slept."

Resolved, That this Faculty has been deprived, in this dispensation of Providence, of one of the most illustrious founders of this College, whose professors felt honored by having their names enrolled with his; one through whose instrumentality other medical colleges have been established in our country; one whose pupils fill chairs in our Faculty, while others hold distinguished positions in similar institutions of medical instruction; one whose self-sacrificing and gratuitous services have been cheerfully rendered to the sufferers in Bellevue Hospital, and other hospitals in our city and country, for the last half century.

Resolved, That our city and the world have lost in his death one whose noble presence and tender sympathies in the sick-room cheered the heart and secured the confidence of the afflicted; whose remarkable record is justly the pride of any profession in any land; whose gifts and labors were recognized at home and abroad; who was honored with positions of distinction in America and Europe rarely won; from whose eloquent lips thousands of students in many colleges have been taught the science of medicine, and by whose graphic pen tens of thousands have gained medical knowledge; and whose numerous and valued works, translated into many tongues, will continue as fountains of instruction to future generations.

Resolved, That while our heads bow in grief at his sudden death, our hearts rise in gratitude to God for his prolonged life of widely extended usefulness.

Resolved, That a copy of these resolutions be engrossed and transmitted to his family, and that they be given for publication to medical and secular journals of this city.

ISAAC E. TAYLOR, M.D.,
President.

JOSEPH D. BRYANT, M.D.,
Secretary, pro tem.

SAMUEL OAKLEY VANDER POEL, M.D.,

NEW YORK.

DR. SAMUEL O. VANDER POEL died in Washington, on March 12th, while on the way South for his health. His death was a surprise to the community, as he had not been thought to have any malady likely to have a fatal issue.

Dr. Vander Poel came of a family long distinguished in the affairs of this State. His father, also a physician, carried on an extensive practice at Kinderhook, Columbia County, N. Y. That was the doctor's birthplace on February 22, 1824. Equipped with an academic education in that town, the young man took a course at the University of the City of New York, of which Theodore Frelinghuysen was then Chancellor. Then he returned home, and for a while studied medicine with his father. This prepared him for entrance to Jefferson Medical College, in Philadelphia, from which he was graduated in 1845. The ensuing two years he passed with his father. His ambition looked beyond a lifetime in the quiet of Kinderhook, however, and in 1847 he went to Paris. French feeling was then revolutionary, and as the scenes of turbulence were not suitable for quiet study, he went for a time to Southern France and Italy, going back to Paris when quiet was restored in the summer of 1848. In 1850 he came home and settled in Albany, where he married.

Dr. Vander Poel had acquired a large practice when, in 1857, Governor King appointed him on his staff as Surgeon-General. In 1860 he became President of the Albany County Medical Society. The duties of Surgeon-General had been barely more than nominal during Governor King's administration, but in 1861, when Governor Morgan selected him for that place on his staff, the requirements and responsibility of the position were great. Without experience in organization, Dr. Vander Poel was called upon to create and manage a bureau of medical supply for all the troops sent out by the State. He had to keep about seven hundred positions filled with competent officers, and to deal with the most exacting class of men. The novelty of army and hospital service wore off while Dr. Vander Poel's position was yet new, and its difficulties were complicated by wholesale resignations. During one week he had to make five hundred appointments to fill vacancies by resignation. He filled the difficult position so acceptably as to win the thanks of the Governor and the Legislature, and when the work was over there was not a trace of bitterness in any quarter as a result of anything he had done. After the war he resumed private practice, which grew during the next few years until it became beyond question the largest in Albany. In 1867 he was chosen to the chair of General Pathology and Clinical Medicine at the Albany Medical College, and at about the same time he became one of

the Board of Managers of the State Lunatic Asylum, at Utica. He was elected President of the State Medical Society in 1870. While still devoted chiefly to his private practice, Governor Hoffman appointed him in 1872 Health Officer of this port. Quarantine matters were then in a deplorable state, and Dr. Vander Poel's powers of organization were again called into play. By introducing system into the management of the office and relaxing oppressive enactments, while still watchful for all needed sanitary regulations, the Quarantine was sustained for the first time in its history by commerce during his administration. He continued as Health Officer until 1880, and left the office with the regrets of the merchants and others who had been brought into official or personal relations with him. During his term he filled, in 1876, the chair of the Theory and Practice of Medicine in the Albany Medical College. After his term as Health Officer he returned to Albany for a year, but in 1881 he came here to live, and has since practised here. In 1883 he was elected to a Professorship of Public Hygiene in the medical department of the University of New York, from which institution he received the degree of LL.D. in 1884. He was also a member of the International Medical Congress, at Copenhagen, Denmark, in 1880–84.

Reviews and Notices.

TEXT-BOOK OF OPHTHALMOSCOPY. By EDWARD G. LORING. Part I.: The Normal Eye, Determination of Refraction, Diseases of the Media, Physiological Optics, and Theory of the Ophthalmoscope. New York: D. Appleton & Co. 1886.

OF all the many persons attracted during the present generation to the special treatment of the eye no one is, perhaps, more competent to write a text-book of the ophthalmoscope than the author of the work before us. He has entered upon the task with the inspiration of the enthusiast, without which scientific work can at best be but mediocre, and the reader feels sure that nothing of importance has been omitted, and that the subject has been treated with the clearness its importance demands. In the introductory chapter we find the scope of the book thus announced: "In the whole history of medicine there is no more beautiful episode than the invention of the ophthalmoscope, and physiology has few greater triumphs. With it, it is like walking into nature's laboratory and 'seeing the infinite in action,' since by its means we are enabled to look upon the only nerve in the whole body which can ever lie open to our inspection under physiological conditions, and to follow in a transparent membrane an isolated circulation from its entrance into the eye through the arteries to its exit in the veins. We are further enabled to watch and study daily, or even hourly, morbid processes in each and every phase, from simple hyperæmia to absolute stasis, and from passive œdema to the most violent inflammation; while oftentimes through its agency, also, we get the first intimation of disease in remote and seemingly unconnected organs, so as to read as if in a book 'the written troubles of the brain,' the heart, the spleen, the kidneys, and the spine."

If we may not attach the importance to the revelations thus claimed for the ophthalmoscope, we can certainly attest to the frequency with which it has been found to confirm the diagnosis after other phenomena than optical have become pathognomonic.

The instrument itself is described in the appendix, and it is well known that Dr. Loring is the inventor of one of the very best combinations in use. The theory of the ophthalmoscope, and directions for its use, together with a brief and simple explanation of the elements of optics, is also to be found in the appendix.

Twenty pages are devoted to the anatomy of the fundus of the normal eye; sixty-two pages to its appearances under the ophthalmoscope and its anomalies; forty pages to the determination of the optical condition of the eye —refraction, astigmatism, etc. Forty-eight pages are given to the examination of the media of the eye—the aqueous humor, the iris, the lens and its opacities, vitreous humor, fundus, and to entozoa. The appendix consists of sixty-four pages.

An exhaustive review of a work of this kind would be beyond the scope of a weekly journal; indeed, it is so concisely written that no mere abstract would do the author justice. When it is stated that its literary excellence is in the author's best style, the method of investigation painstaking and exact, but little remains to be said in its praise.

The work is enlivened by good pictures; there are four excellent chromo-lithographic plates, and one hundred and thirty-one engravings and diagrams, all of which are well adapted to illustrate the text, many of them being original.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. LEWIS SMITH, M.D. Sixth edition, pp. 870. Philadelphia: Lea Brothers & Co. 1886.

DR. SMITH'S wide and varied experience has made him an authority in children's diseases. His process of observation, coupled with a practicality which prevents him from becoming too much entangled in theory, has enabled him to write a book which practitioners have properly held for a long time in high estimation. Five years have elapsed since he put forth the fifth edition of the work now before us. A half a decade in these days of persistent research and investigation gives an author no easy task in the pruning, amending, and enlarging of his work. Some important maladies have been entirely rewritten, such as cerebro-spinal fever, scarlet fever, pseudo-membranous croup, and infantile diarrhœa. The treatment of many of the diseases has been revised.

TABLETS OF ANATOMY. By THOMAS COOKE, F.R.C.S. Eng., B.A., B.Sc., M.D. Paris; Senior Assistant Surgeon to the Westminster Hospital, and Lecturer at the School of Anatomy, Physiology and Surgery. Fourth Edition. London: Longmans, Green & Co. 1885.

IN these "Tablets" a student will find great assistance in helping him to recall the anatomical relations of the various parts preparatory to examination, and the practitioner also whose memory is somewhat treacherous will be enabled to refresh it in a moment by glancing at the tables spread out clearly and distinctly before him.

HOW WE TREAT WOUNDS TO-DAY. A Treatise on the Subject of Antiseptic Surgery which can be Understood by Beginners. By ROBERT T. MORRIS, M.D., late House Surgeon to Bellevue Hospital, New York, etc. Pp. 161. New York and London: G. P. Putnam's Sons.

THE title of this little book indicates precisely its scope and intent. The author has done his task well. In language terse and in aphorisms pungent Dr. Morris defends antiseptic surgery, and offers directions for its application in every-day practice which are evidently the outcome of actual observation. Although the language is somewhat enthusiastic, the picture is not overdrawn, and the results of Lister's great innovation are carefully considered.

Its clear instructions for the preparation of the dressings (giving even the cost and place for purchasing) will enable the general practitioner who is removed from the great cities to provide for emergencies, and the author's incisive method of impressing the principles and practice of "genuine antisepsis" will render the intelligent physician so watchful and exact in its execution that very soon "he will find himself proud of his results." The antiseptic treatment of all wounds is minutely detailed under their respective titles—open, lacerated, etc. Hence the practitioner need only refer to the proper chapter to find himself complete master of the situation.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, Monday, February 8, 1886.

STEPHEN SMITH, M.D., CHAIRMAN.

DR. R. F. WEIR read a paper (see p. 321) on

THE TREATMENT OF VARICOCELE.

DR. ROBERT ABBE agreed with Dr. Weir's conclusions almost entirely, and he would, therefore, confine his remarks to the incidents connected with the operation. A radical cure was not always accomplished by simple ligation of the veins subcutaneously with catgut. It was in most cases accomplished where the varicocele was not a large one. But, as Dr. Weir had shown, there were several veins, and while the ligature shut off the main one, it sometimes occurred that the others became dilated, and thus there was a recurrence of the varicocele. He had seen this in two or three cases. Regarding the safety of the operation by subcutaneous ligature, he thought that was a very important matter. Although he knew of no recorded death, the operation in a considerable number of cases was certainly attended with unpleasant complications. We would like to be able to assure the patients that they could go out to their work within eight or ten days, but in the majority of cases they could not. Often two or three weeks, and even four or six weeks, elapsed before they could be discharged cured. Sinuses occurred at the seat of the ligature which sometimes required weeks to heal by granulation. There was also a complication which Dr. Weir did not speak of, and which Dr. Abbe had observed in a considerable proportion of cases, namely, an induration of the epididymis and testicle; a sort of subacute epididymitis and orchitis. This might occur, however, after other methods of operating. But it followed simple ligation, and also more complicated operations. He presumed it was due to tardy return of blood which was transmitted to the organ through the artery of the cord after the spermatic artery had been occluded by the ligature. The induration might take place during the first three or four days, or it might not come on for a week or ten days.

Dr. Abbe gave the results of operations for varicocele in St. Luke's Hospital during the past ten years. There were thirty-six cases in all. The method at first used was Wood's, described in the paper of the evening. Sixteen cases were treated by this method, of which four, not resulting in complete cure, were operated upon within a month by amputation of the scrotum. The antiseptic catgut ligature was employed subcutaneously in six cases, of which three were followed by ablation. The antiseptic silk ligature passed at two places was employed in one case. There was amputation of the scrotum alone in six cases, and amputation with ligation of veins in seven cases. The testicle and vas deferens were inflamed in four cases after Wood's method. In the case in which the silk ligature was employed there was epididymitis. Of the six cases treated by catgut ligature one had epididymitis. After amputation and the use of catgut there was epididymitis in all of the seven cases. There were abscesses in a number of cases in both the simple Wood's method and the open operation.

It seemed to Dr. Abbe we should be specially careful in the open operation in handling the parts. And we should not amputate too much of the scrotum; not as much as if we were going to rely upon amputation alone for a cure; for, by crowding the testicle up into an unnatural position, perhaps twisting the vessels, we shut off the vein and artery of the testicle for a time at least, and caused danger.

He recalled two recent cases in which the epididymis and testicle, becoming indurated, gave him some anxiety for a time, for he feared gangrene of the testicle or sloughing. They both came out nicely, however, although for more than four weeks the organ lay embedded in a solid inflammatory mass. In one similar case a slough took place, which, as near as he could ascertain, occurred in a portion of veins lying between two ligatures. That, however, was a sequel to a secondary hemorrhage taking place within twenty-four hours after amputation of the scrotum, although he thought he had left the wound perfectly free from danger of hemorrhage. He opened the wound, evacuated a quantity of clot, ligated the small bleeding vessel, and the case did well except for the slough mentioned.

DR. M. H. HENRY had been interested in the paper read by Dr. Weir, in which he gave an account in a very terse and elegant manner of the procedures that had been adopted for the cure or relief of varicocele. He supposed it would be just as well to begin with the relation of his personal experience, which commenced about 1856, consisting at first in observing what others did. About 1860 Dr. Henry performed Ricord's operation, but without very good results. He was always struck with the uncertainty of a cure when ligatures were employed. There was no doubt then, and there is no doubt to-day, in his own mind, that the ligation of the veins was dangerous, not only to life, but it was liable to be followed by atrophy of the testicle, and of being unattended by any beneficial result. Now, one of the greatest inconveniences from which patients suffering from varicocele complained was that the length of the scrotum interfered with the crossing of the legs and with assuming other positions. Ablation of the scrotum would do away with this. Any of the other operations described by Dr. Weir, subcutaneous ligature, ligature and ablation of veins, and ligature with ablation of the scrotum, were regarded by Dr. Henry as dangerous. Complete ablation without ligature would cure the varicocele, and if performed after the manner which he had adopted and described, it was the best and safest operation. Dr. Henry claimed nothing new with regard to the method excepting that he had made it safe. He described different clamps which had been employed for taking up the redundant tissue during the operation, and then showed the superiority of his own. He excised all redundant tissue, putting the testicle in the same position which it occupied when exposed to cold, and inasmuch as the scrotal tissue had been so greatly stretched, he did not think there would be danger of elongation from further resiliency. Cases which he had operated upon many years ago showed a complete cure. In 1880 he read a paper before the Academy, giving the results of his treatment, and the method had been employed more or less by different operators. Dr. Henry had noticed that most cases of varicocele occurred in persons of delicate health. He had never seen a case of severe varicocele without a redundancy of scrotal tissue which required to be removed, and if we followed this procedure we would not be troubled with abscess, following the use of the ligature, and other unpleasant symptoms which attended other methods described. In three of his cases the varicocele had been accompanied by hydrocele. One of these cases he saw twelve years afterward, and there had not been any return of the hydrocele.

The clamp employed by Dr. Henry was easily adjusted, never slipped, and formed, as it were, an artificial raphe corresponding to the normal raphe in the scrotum.

DR. CHARLES MCBURNEY had treated a good many cases of varicocele in both hospital and private practice, and his treatment had consisted of three different methods. The first was adopted a good many years ago, before he had become thoroughly acquainted with antiseptic surgery, being the use of Wood's clamp described by the author of the paper. The results were satisfactory; indeed, he must say very much so, except that the instrument itself was uncomfortable. There was some

suppuration in the track of the wire. The second method consisted in a combination of Wood's clamp with amputation of the scrotum, and was employed where there was a redundancy of scrotal tissue. The third method was the use of the subcutaneously applied catgut ligature. This he had used in a good many cases since 1880, and with the greatest satisfaction. It was very easily applied, it caused no distress in recovering from the anæsthetic. He had employed it without an anæsthetic and without causing discomfort. He had never seen suppuration follow its use, and the results in general had also been positively satisfactory as regards cure. He had never resorted to excision of the veins, and at present he did not look forward to excision of the veins in varicocele as an excellent measure. If all we desire to accomplish was simple occlusion of the veins, he thought the skilful application of the ligature would be sufficient, and the subcutaneous catgut ligature would answer this purpose admirably. That one could fail to apply the ligature in a manner to include all of the veins, was undoubtedly true. But he would, he thought, always make use of this method in preference to the open one, as he could hardly see how the latter offered a greater probability of occluding the veins.

As to ablation of the scrotum, he thought all surgeons would agree that where there was a redundancy of the scrotum it was desirable to effect suspension, and the most satisfactory way was, of course, to shorten the scrotum itself. But he could not agree with Dr. Henry's conclusions with regard to the effect of amputating the scrotum. Dr. McBurney had seen varicocele in cases in which there was no elongation of the scrotum, and probably had never been. It would have been difficult to say whether one testicle was lower than the other. He had seen one case—and it carried with him a good deal of weight—in which the varicocele returned after perfect suspension by ablation of the redundant scrotum. To be sure that was only one case, but that case was sufficient to satisfy him that amputation of the scrotum alone was not always a cure for varicocele. Where the scrotum was elongated and the testicle was unsupported, Dr. McBurney thought amputation was better than artificial support, and the instrument invented by Dr. Henry for amputation was better than any other which had been recommended.

Dr. George A. Peters had employed the best method in use at different periods during his surgical career. At one time he used Wood's clamp, and his experience with it had been very satisfactory. Occasionally he had suppuration, but he learned to have less and less the oftener he did the operation. The great trouble seemed to be to know just when to remove the wires. At first they were left too long, and afterward he sometimes removed them too soon, but in general the results had been quite satisfactory. Subcutaneous application of the catgut ligature, however seemed to have given even better results than Wood's clamp. Dr. Peters had amputated the scrotum a number of times, but he had not done both operations on the same patient. He thought, however, he would associate ablation and ligation hereafter. He should say that it seemed to him ablation did not offer as good a chance for a cure as ligation. But where there was redundant scrotum, requiring the use of a suspensory bandage, he would amputate.

Dr. A. M. Phelps, of Chateaugay, N. Y., by invitation, said he had been much interested in the discussion of the question of the treatment of varicocele. He had had some experience with the different methods described, and, as had been said by others, he had had some good results and some bad. He was rather in favor of removing as much of the scrotum as possible, and at the same time ligating the veins. He had had only one case in which there was bad suppuration, and there it was probably because due regard was not paid to antisepsis.

The Chairman thought from his own experience that the truth probably lay somewhere between the extreme opinions which had been expressed. There was no question at all, he thought, but what varicocele might exist without an elongated scrotum. He had seen that in several instances. In such cases, of course, amputation would not be the remedy. Ligature with catgut had given the best results, and it could be used without danger, excepting, perhaps, that of induration of the testicle alluded to by Dr. Abbe. Immediate bad effects he thought had been avoided almost entirely. But when there was elongation of the scrotum he thought there was no question at all but what amputation was best, and Dr. Henry's instrument was much the best he had ever used. He took the ground, in practice, of resorting to whatever method seemed best suited to the case. It seemed to him there was a class of cases in which both amputation and ligation were required.

Dr. Weir said, with regard to subcutaneous ligature of the veins, we should not go too close to the testicle. The open wound had the merit of quickness, and in hospital practice, where due care could be given to the case, treating it antiseptically, it had advantages, but for general practice he would not advocate it. He fell back on simple ligation for small varicocele, and in other cases amputation with a certain amount of ligation. We were liable to make the error of using too many ligatures. As to amputation of the elongated scrotum alone, it was not so reliable. Absolute cure of the varicose condition by ablation was extremely rare.

Dr. Stephen Smith was elected Chairman, and Dr. A. B. Judson, Secretary, for the ensuing year.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 27, 1886.

John A. Wyeth, M.D., President, in the Chair.

The special subject for the evening was

INTESTINAL VOLVULUS,

and the discussion was opened by Dr. R. Van Santvoord with a paper (see p. 329).

ELONGATED AND DISPLACED SIGMOID FLEXURE.

Dr. L. Emmett Holt presented a specimen with the following history: It was taken from the body of a child aged thirteen months, who had died of pyelo-nephritis. The only symptom during life which seemed to bear any relation to the displacement was a persistent tympanitis, which had existed for months, and was much of the time excessive.

On the autopsy the sigmoid flexure occupied the umbilical region and was much distended with gas, so that it resembled the stomach. The descending colon was normal in size and position, but at the crest of the ilium the intestine was slightly twisted upon itself and passed in front of the small intestine to the right of the median line, and descended into the pelvis near the *right* sacro-iliac junction. The sigmoid flexure measured ten inches in length, being longer than the descending colon. Its mesentery was much elongated, but its walls, except a degree of attenuation from the distention, showed nothing pathological.

The case was an illustration of a condition not very unfrequently seen, and undoubtedly having an influence in the production of volvulus, though that condition could hardly be said to be present, as neither vomiting, constipation, nor any other signs of intestinal obstruction had existed.

The President said that one of the chief points of interest in this class of cases was with reference to surgical interference in intestinal obstruction from any cause. He believed that the rule should be, not to wait even twenty-four hours when there were well-marked symptoms

of obstruction. It would be wiser to explore at once—which, under ordinary circumstances, was not a dangerous procedure—and then a positive diagnosis could be made, and in most cases the obstruction removed. If the exploratory incision is made within twenty-four hours, it is not dangerous, and all obscure points which cannot be made out by any other method can be solved.

With regard to puncturing the intestine, either after it had been exposed or through the abdominal walls, Dr. Wyeth had punctured hernial sacs in two cases. The punctures were made simply for the relief of pain, due to distention, in hopeless cases, and in each instance he had an opportunity to examine the intestine at autopsy, and found that the holes had remained open so that the contents could still escape through them, although it was several days after the punctures were made before death took place.

Dr. Van Santvoord said that the probable reason why the punctures did not remain open in his case was because the cæcum was immensely distended, and with the collapse of the gut there was a corresponding diminution of the size of the openings. The use of a small needle in a hernial mass was somewhat different than its use in a largely distended intestine through a distended abdomen. It is a fact well established that these punctures have been followed by extravasation of fæces and peritonitis, and their use through the unopened abdomen is discouraged by Mr. Tait.

Dr. Wesley M. Carpenter referred to an act which was played in the same amphitheatre in which the Society was then holding its meeting. The late Dr. Willard Parker was lecturing on strangulated hernia, and mentioned the embarrassment which sometimes attended the escape of several coils of intestine from the abdominal cavity. This condition of things was illustrated by a striking picture.

With regard to the treatment which the protruding intestinal coils, under such circumstances, should receive, he spoke of the temptation which might arise to puncture them, but emphatically warned the students against yielding to the temptation, because of the great liability to the escape of intestinal contents and the development of peritonitis.

After Dr. Parker had passed this point and got well toward the close of his lecture, the late Dr. Alexander H. Stevens entered the amphitheatre, and before the hour expired, Dr. Parker invited him to make some remarks to the class. This venerable surgeon said that he did not know that he had much to add to what he had heard on the important subject of the lecture, but his attention had been attracted to the very embarrassing condition of things illustrated by Professor Parker's diagram on the wall, and he would like to say that the very best plan of treatment of the distended gut, under such circumstances, was to make numerous punctures with a fine cambric needle and allow the gas to escape, when the intestine could be easily returned to the abdominal cavity and no harm would follow the operation.

Whereupon Dr. Parker smiled, the students smiled, the bell rang, and the class was dismissed.

Here were given, by two of the great surgeons of this country, opinions which were directly opposed to each other, and many a confiding medical student saw for the first time an illustration of the adage, "Great men will differ."

From the number of cases in which puncture of the intestines, either after they had been exposed or through the abdominal walls, has been done without consequent harm, one might be led to resort to it without hesitation; but there is a sufficient number of cases on record in which these punctures have been followed by evil results to warn us against their indiscriminate use.

Dr. J. Lewis Smith asked the President if he would resort to an early operation in ordinary intussusception occurring in an infant. He had succeeded in reducing intussusception with injections of water as late as the third day. He had no doubt, however, that many lives might have been saved by operation, but thought that, perhaps, an exception with reference to intussusception might be made, as to resorting to operative interference as early as indicated by Dr. Wyeth.

The President asked Dr. Smith what proportion of cases of intussusception had recovered where no operative interference had been made.

Dr. Smith said that up to the last four or five years the proportion of deaths had been very large. But he thought that he could now detect the condition early, and therefore be able to commence treatment within the first day.

The President said that the hopelessness of these cases after a few days called for reduction of the intussusception within twenty-four hours.

Dr. Smith said that unfortunately, in most cases in infants, purgatives had been given before the physician was called, and their action being pernicious, the obstruction was already so great and the invaginated mass so large, that it was difficult to reduce it. But with early diagnosis and the avoidance of purgatives, and treatment by injections of water, with kneading the belly, he thought that success might be obtained in perhaps one-half of the cases.

Dr. Van Santvoord said that Lichtenstein, if he recollected correctly, placed the mortality in intussusception at seventy per cent.

The President thought that large injections of water and distention of the intestine with gas, were equally as dangerous as the exploratory operation, and certainly not as positive with reference to diagnosis and result. He had come to this conclusion from the study of hernia cases. He did not believe that a patient with strangulated hernia would ever die, if operated upon within from *six* to twelve hours after the strangulation occurred, or at least the rate of mortality would be reduced to almost zero. He believed that it was from waiting that the disaster came in these classes of cases.

Dr. Smith had seen several cases in which he had been sorry that laparotomy had not been performed; one in particular, the specimen from which he had presented to the Society.

The President said that he operated four weeks ago on a patient with symptoms of intestinal obstruction, at the junction of the sigmoid flexure and the rectum. Not knowing what the exact condition of affairs was, he anæsthetized the patient, and performed linear rectotomy, passed his coned fingers up to the point of obstruction, pushed it up an inch or so, and, strange to say, relief of the obstruction at once followed. Although it was not then made out, he had regarded the case as one of prolapse of the sigmoid flexure into the rectum.

Dr. Holt had recently seen the report of two or three cases in which injections of water, two to three days after the obstruction occurred, resulted in perforation—showing that the method is not without danger, if the symptoms are acute and the obstruction tight.

Dr. Smith had not seen an ill result from the use of water, but had seen one case of rupture produced by inflation.

Dr. Boldt raised the question as to the use of opium in cases of severe pain and doubtful diagnosis; and referred to a case in which, after the administration of a hypodermic injection of morphine the pain was relieved and the vomiting ceased. The case was one of umbilical hernia, and the question was, would it have been preferable to have operated at once?

The President said that he should, in such cases, give morphine to relieve the pain, and then operate.

Dr. Van Santvoord thought it wise to keep in mind the fact that not unfrequently, according to the urgent symptoms present, it would seem that some kind of obstruction existed, but the patients were relieved entirely by injections of morphine. Within the last two years he had seen five such cases, in which he felt almost certain that some form of obstruction was present, and yet all

the symptons passed off under the influence of opium. It had been a growing impression with him that the cases of possible intussusception, or twisting of the gut, which subsided spontaneously, or with a single injection of morphine, were rather common. Moreover, it should be borne in mind that those who wrote on this subject were chiefly surgeons who saw severe cases, and therefore had a rather exceptional experience; of course, they are guided in what they say by what they see.

THE PRESIDENT said that the symptoms mentioned in the cases referred to by Dr. Van Santvoord did not mean obstruction which would lead to exploration of the abdominal cavity. He thought there was no stronger argument in favor of surgical interference than the quotation made by Dr. Van Santvoord, that seventy per cent. of the cases of intussusception terminated fatally.

DR. VAN SANTVOORD said that the cases referred to in the quotation came from the records, while the slight cases did not get recorded at all.

The Society then went into executive session.

Stated Meeting, February 10, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

DR. L. WALDSTEIN, Chairman of the Committee on Microscopy, reported that the specimen presented by Dr. C. H. Knight at the last stated meeting was

A SIMPLE FIBROMA

of the vocal cord, which did not implicate the mucous membrane proper.

DR. T. MITCHELL PRUDDEN presented a specimen, with microscopic sections, of

CHRONIC LOCALIZED ENDOCARDITIS AND INTERSTITIAL MYOCARDITIS FROM INFLAMMATION AND PARTIAL OCCLUSION OF CORONARY ARTERY.

He was indebted for the epitomized clinical history to Dr. A. B. Pope, Resident Physician to Bellevue Hospital. Male, fifty-two years of age, United States sailor, single; mother died of phthisis; family history otherwise good; never had rheumatism; well-marked alcoholic history; seven years ago had sore and suppurating bubo, but no secondaries. Patient says that in wet weather he has slight cough; has had night-sweats and one hemorrhage from lungs. For some time he has had ringing in the ears and spots before the eyes. Six days before admission he vomited several times and began to have diarrhœa. He was admitted on January 6, 1886, cyanotic and suffering from severe dyspnœa. Heart-beats were regular but frequent (124), very feeble, no murmur. No tenderness or pain in chest. Examination of lungs showed good resonance, with some scattered crepitant and sub-crepitant râles, with few mucous râles. There was no œdema of feet or legs. The urine examination showed only water, no albumen. On January 9th he had less dyspnœa, but was "out of his head." The next day his craziness disappeared and his dyspnœa returned, but was somewhat relieved by opium. He continued to have attacks of very severe dyspnœa, with some symptoms of pulmonary œdema, and so died on January 18th, twelve days after admission, and eighteen days after the commencement of his attack. The temperature had ranged from 99° to 102°.

Autopsy.—Brain not examined.

Heart, right auricle and ventricle filled with a voluminous, loose red clot, pulmonary and tricuspid valves normal. Aortic and mitral valves show scattered patches of fatty degeneration, as does also the aorta. The left ventricle shows a patch of much-thickened endocardium, about five millimetres by seven millimetres, occupying the apex of the heart, and extending anteriorly and over the lower portion of the septum. The endocardium in some parts of this region is five millimetres in thickness. A dense, whitish blood-clot is entangled among the papillary muscles, and firmly adherent to the heart-wall at the point of lesion. The wall of the heart itself over the area corresponding to the endocardial lesion shows a replacement of its inner half by new, dense connective tissue.

The heart-muscle in this region is found by microscopical examination to present a moderate degree of fatty degeneration.

The coronary artery leading to the affected region shows, about two centimetres below its origin, a sudden constriction from the formation of a dense mass of new tissue in its walls. Below this, for about one centimetre, the artery is very narrow, the seat of obliterating endarteritis and atheroma, and is nearly occluded by a thin parietal thrombus.

Beyond this point the artery widens out, and with the exception of a few patches of fatty degeneration in its wall, appears normal.

The coronary artery leading to the right ventricle shows a small patch of atheroma near its origin.

Right pleural cavity contains about five hundred cubic centimetres of clear, yellow serum, with a few flocculi of fibrin. The pulmonary pleura over the upper lobe is covered with a thin pellicle of fresh fibrin. The upper lobe presents the appearances, both gross and microscopical, of lobar pneumonia in a condition of advanced resolution. The left lung presents general old pleuritic adhesions, and partial pneumonic consolidation in the lower lobe, similar to that on the right side.

Spleen shows moderate degree of chronic interstitial inflammation; kidneys are small with free capsule, slightly nodular surface, thin and irregularly marked cortex. Liver is normal.

He presented the case because the specimen showed in the most striking and evident manner the exact character of this always interesting and important heart lesion, and furthermore, because it afforded an excellent example of a class of cases in which persons go on enjoying tolerably good health, with very extensive lesions of an important organ, but succumb to the original disease when an intercurrent disorder disturbs the equilibrium under which the life functions were being fairly well maintained.

DR. WESLEY M. CARPENTER asked if microscopical examination was made of the arterioles of the kidneys.

DR. PRUDDEN replied in the negative, and that the diagnosis of renal disease was based on the gross appearances.

DR. CARPENTER said he asked the question because, somewhat recently, there had been considerable discussion concerning the relation existing between fibroid degeneration of the arterial system and Bright's disease of the kidneys. He had examined the blood-vessels of kidneys removed from the bodies of persons who had given the ordinary history of chronic Bright's disease in a large number of cases, and in a goodly proportion of them had found no particular change in the arteries. These examinations were fairly reliable, although made in the ordinary line of pathological work and laboratory instruction. In other cases, however, in which persons had died with the usual symptoms of chronic Bright's disease, and in which the kidneys had furnished the lesions of chronic diffuse nephritis, the arteries exhibited very marked changes, not only in the external coat, but also in the intima. There were, therefore, according to his observations at least, exceptions to what perhaps, from what had been written, might be inferred to be the rule—namely, that fibroid degeneration of the blood-vessels was necessarily a part of the morbid anatomy of chronic diffuse nephritis.

DR. PRUDDEN could concur in Dr. Carpenter's remarks, but in this particular case the lesion in the coronary arteries seemed to be local; there was no general atheroma.

DR. CARPENTER said that was the reason why he asked concerning the blood-vessels of the kidneys. The case

seemed to be an illustration of the fact that such fibroid degeneration of the arteries might be local. The special point to be made was that fibroid degeneration of the blood-vessels or arterio-capillary fibrosis, was not necessarily a part of the morbid anatomy of chronic Bright's disease.

DR. LOUIS WALDSTEIN had found fibroid changes affecting the arteries in kidneys the seat of chronic Bright's disease, but he was not prepared to say that it was present in all cases. Its existence depended very much upon another factor, and that was the senile changes present in the body under examination.

It appeared to him that the examinations made by Gull and Sutton, and to which doubtless Dr. Carpenter referred, were mostly in elderly people, and that the changes described when the kidney trouble was found were senile in character. Fibroid change in the arteries might exist in various organs, without any change at all which could be properly regarded as belonging to Bright's disease. On the other hand, he had seen cases, as remarked by Dr. Carpenter, in which Bright's disease existed with fibroid changes affecting the blood-vessels, and especially those of other organs of the body than the kidneys.

With reference to Dr. Prudden's specimen, he had had occasion to examine the coronary arteries with fibroid change in two cases very thoroughly, and singularly enough, he did not find the changes which Dr. Prudden had described. Instead of proliferation of the connective tissue he found emboli and degenerative changes in the myocardium. In both cases there was the clinical history of repeated attacks of angina pectoris.

THE PRESIDENT said the same point was brought out in the Society about two years ago, in connection with a specimen in which the condition referred to by Dr. Waldstein was found, but the symptoms were about the same as those given in Dr. Prudden's case.

DR. PRUDDEN believed it to be essential to separate sharply the cases of partial and complete occlusion of the coronary artery.

In one class of cases there is a sudden and complete obstruction of the coronary artery, followed by fatty degeneration of the myocardium that may lead to rupture, although rupture does not always occur. In another class of cases a thrombus occludes the artery, and from this small emboli become detached and find their way to other parts.

Furthermore, there is a class of cases in which there is only partial occlusion of the artery from thrombus, but there is subsequent connective-tissue proliferation.

In the specimen referred to by the President, it seemed to him that the heart-muscle had undergone degeneration, and afterward fibroid change took place; whereas in the specimen just presented there was a well-defined area which had probably not gone through the degenerative stage, but in which new connective tissue had formed from the beginning.

DR. L. EMMETT HOLT presented specimens from a case of

ACUTE NEPHRITIS IN AN INFANT.

DR. WALDSTEIN asked Dr. Holt how he collected the urine from small children.

DR. HOLT said the best method he had employed was to place a clean sponge over the genitals and fasten the diaper over that.

DR. WALDSTEIN said he asked because he regarded it as very important to examine, as often as possible, the urine of children who give symptoms which cannot be grouped readily. About one year ago he was called suddenly, in the night, to see a child that was taken sick two days before, and when he arrived at the house, within a very short time from the call, the child was dead. The symptoms had not led the attending physician to suppose that the child was so ill. The post-mortem examination revealed morbid changes in the kidneys only, which were very much enlarged, and showed both interstitial and parenchymatous nephritis.

Dr. Waldstein had since read a paper by some German writer, who recommends the use of a catheter for collecting the urine in small children.

DR. CARPENTER said that wrapping the genitals and covering the abdomen suddenly with flannel wrung from hot water, had been suggested as an efficacious method of making children empty the bladder.

DR. BOLDT said he had adopted this method, and had found it successful in a large proportion of cases.

DR. HOLT said it was resorted to in his case several times and with good effect. He also regarded it as important to recognize a class of cases in which there is no retention, but a temporary suspension of the action of the kidneys, and this state of affairs might continue for twelve or twenty-four hours without apparent cause. One point of interest in his case was the fact that a child could have so extensive kidney disease and yet all the ordinary objective symptoms be absent.

DR. J. E. NEWCOMB asked Dr. Holt if he had noticed any tendency to collapse in the use of antipyrin.

DR. HOLT said that he had used it in fifty cases in children, and had not seen the slightest tendency to collapse. In one case the drug was administered in a dose of ten grains without unfavorable symptoms.

DR. NEWCOMB said that he knew of one case in which two grains, given to a child aged six months, produced an alarming collapse, from which, however, the child recovered.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MR. SUTTON'S LECTURES ON EVOLUTION IN PATHOLOGY—THE ORIGIN OF TUMORS—THE ADMISSION OF WOMEN TO THE MEDICAL PROFESSION—THE LATE MR. WORDSWORTH.

LONDON, February 27, 1886.

IN my last letter I gave a brief *précis* of Mr. J. Bland Sutton's views on Inflammation, as expounded by him in his second "Erasmus Wilson Lecture" at the College of Surgeons. The subjects discussed by Mr. Sutton are so important that, at the risk of wearying your readers, I venture to devote some further space to give a short account of his third and concluding lecture. In this the etiology of tumors, or, as the lecturer preferred to call them, neoplasms, was treated of. Inflammation and tumors, although they may not, as some students think, form the whole, or even the greater part, of pathology, even from a surgical standpoint, are yet, at any rate, two subjects eminently interesting to every practitioner. I would not have it understood that Mr. Sutton's first lecture was one whit less interesting or important, but it dealt with matters less interesting to the clinician, so I have not given any report of it.

Mr. Sutton gave the following definition of a neoplasm: "A new growth characterized by histological diversity from the matrix in which it grows; it is distinguished from inflammatory new formations by the variety of its forms, its mode of origin, and the frequent inherent tendency it has to increase." He ranged neoplasms in three groups: 1, Mesoblastic, including the connective-tissue growths; 2, epiblastic and hypoblastic, comprising adenomata, carcinomata, and papillomata; 3, teratomata, or neoplasms containing tissues derived from the three embryonic layers. The histological details would determine the varieties.

Mr. Sutton went on to say that Cohnheim's hypothesis, which ascribed the origin of neoplasms to persistent rudiments, had the most to recommend it if the term "tumor" were used in its most restricted sense. This hypothesis

he proceeded to expound, and showed the immense number of facts which can be brought forward to support it. He was careful to explain that he used the term "germinal rudiment" in a more extended sense than that in which Cohnheim employed it. We had evidence, he said, that such germinal rudiments did exist, and that such germs might become tumors. No one disputed the origin of true cysts from functionless ducts and tubules, and why should the origin of solid neoplasms from rudiments be doubted, especially if such untransformed tracts of tissue could be demonstrated unequivocally to be heteroplastic in their nature? It was, of course, easier to demonstrate the origin of cysts from pre-existing germs than it was ever likely to be in the case of neoplasms, but still we could show that in the region where particular tumors were more prone to occur there was embryological testimony to explain why they occurred there. An epithelioma on the lip was what we expected, but a similar growth starting in the midst of a block of cartilage was incomprehensible. A piece of cartilage in the midst of the shaft of a femur of a boy five years of age was cartilage in the wrong place. Such islands were, nevertheless, to be met with by those who cared to expend time and labor in searching for them; and, as pointed out by Virchow, might in later life become the starting-point of enchondromata. The lecturer referred to the development of enchondromata (and also osteomata—the latter being simply higher developments of enchondromata) from those regions of the skull in which, even in the oldest, traces of the cartilaginous matrix remain. Such regions were the region immediately posterior to the external auditory meatus, the neighborhood of the nasal fossæ, the septum nasi, and the vertebræ, and these were favorite situations for enchondromata and osteomata. Moles and nævi might be regarded as tumor-germs. There were many instances of a small nævus, untreated in early life, forming later on an angioma of some size, and becoming a source of danger. All germs or rudiments did not become tumors. Three courses were open to them. They might (1) undergo transformation into normal tissue; (2) remain quiescent; (3) be stimulated into abnormal activity by irritation. If we admitted the origin of enchondromata, osteomata, and angiomata from rudiments, need we doubt the origin of other varieties of mesoblastic tumors from similar sources? There was this important fact—they were always confined to regions of the body where the elements of which they were composed were to be unequivocally demonstrated.

Referring to sarcomata, Mr. Sutton said he had no doubt that many cases of round-celled sarcomata were not genuine neoplasms, but the result of the irritation of micro-organisms. He alluded to a paper by Mr. Pearce Gould showing the apparent traumatic origin of many sarcomata, and mentioned several observations tending to the same conclusion which he had himself made on animals. Careful examination, he said, of many of these cases supported the notion that after the injury the inflammatory tissue, or tissue of repair, exceeded normal limits, developed erratically, and played the part of a tumor-germ.

The second group of neoplasms contained, in addition to mesoblastic tissue, epithelial elements derived from either the epiblast or the hypoblast, and in their structure more or less resembled glands. If the resemblance was close, the neoplasm was termed an adenoma, and the cells clothed the alveoli in a regular manner; but if the cells were merely tumbled in confusion into the alveoli, it was called a carcinoma. The distinction between hyperplasia of a gland and a glandular neoplasm was simple—the latter was impotent to produce the secretion normal to the gland. Carcinomata resembled secreting glands in their relation to blood-vessels, and in their mode of development. The abnormal epithelial growths in carcinomata mimicked the mode of development of glands by a down-growth of epithelium from the hypoblast or epiblast. There was no valid reason why the abnormal down-growths of epithelium occurring in the neighborhood of any glands, and forming carcinomata, should not be considered tumor-germs in the same sense as the little masses of cartilage lodged in the interior of a long bone. If we were asked why cancer should be more frequent in the old or debilitated than in the young or vigorous, the answer was that young trees brought forth the best fruit because in them vigorous growth was at an acme; when this faded, then that which was inferior was produced. So with glands. Irritation in the young produced papilloniata; in the old, cancer.

After considering teratomata, and diverging from his subject proper to give a few words about congenital cervical cysts, Mr. Sutton concluded by saying that any one ambitious of becoming a scientific pathologist must first be a sound human anatomist, acquire a tolerable knowledge of comparative anatomy, and then keep well abreast of the teachings of embryology. These qualifications are so admirably combined in Mr. Sutton himself that he might have been accused of self-praise, were it not for his modesty. Given these qualifications, and the pathologist, he said, would then, in spite of himself, become a firm believer in the fundamental principles of the grand doctrine of "evolution."

No more striking proof of the mutability of human opinion could well be adduced (from a medical point of view) than the change of front made by many leaders in the profession in regard to the question of the admission of women to practice. At first vigorously opposed, then treated with contempt, their claims now meet with marked approval in many quarters. A great step was gained when the University of London threw open its doors to women, and a still greater gain was the extension of the privilege to its medical degrees. Sir William Gull presided last week at a meeting, held in the rooms of the Medical Society of London, convened to found a scholarship as a memorial to the late Miss Helen Prideaux, a distinguished medical graduate of the University. Miss Prideaux, after obtaining the M.B. degree with high honors, died from diphtheria contracted in hospital practice, on the eve of presenting herself for the M.D. examination, in December last. Sir William Gull confessed that he had opposed the admission of women to medical studies, but was now in favor of it. Such an opinion, though shared by many, is, however, by no means universal among medical men. One distinguished graduate in medicine, of the University—a well-known physician attached to one of the largest and oldest of the metropolitan hospitals—has ceased to use the title of M.D. since women have been allowed to enter the University, and even omits it from the Medical Directory. About ten years ago, when the question was being discussed, an eminent London physician, who had graduated at the University with distinction many years before, announced publicly that were the portals of the University opened to women, he, for his part, would seek a degree elsewhere. The promise, however, remains as yet unfulfilled.

Among recent deaths is one of a surgeon of some note—Mr. J. C. Wordsworth. Mr. Wordsworth was formerly Assistant Surgeon to the London Hospital, and Demonstrator of Anatomy in the Medical College. When the Crimean War broke out he went out to the seat of war as a surgeon. He did not go for a mere surgical picnic, as has been done several times of late years by hospital surgeons when any little war breaks out, but resigned his appointment and remained at the Crimea until the end of the campaign. He was appointed a surgeon on the army medical staff, and had charge for a time of the British Hospital at Smyrna. On his return to London he devoted himself to ophthalmic surgery, in which he attained no inconsiderable practice and repute. Mr. Wordsworth was quiet, unassuming, and genial, and much liked by his immediate associates. I believe he was no relation to the poet Wordsworth.

MEDICAL LIBRARY 347 OF THE BOSTON CITY HOSPITAL

OUR PARIS LETTER.

(From our Special Correspondent.)

DEATH OF DRS. MACCARTHY AND WILLIAM E. JOHNSTON.

PARIS, February 19, 1886.

IN the space of four days the English and American colonies of Paris have each lost one of their oldest and most eminent physicians by the death of Dr. MacCarthy and that of Dr. William E. Johnston. Dr. MacCarthy died on Wednesday the 10th inst., in the seventieth year of his age. He was a native of Ireland, but came over to Paris, at an early age, with his father, who became professor of English to Louis Philippe's family. Dr. MacCarthy prosecuted his medical studies in Paris, and took his degreee in 1844. He acquired a very good practice, not only among the English residents in Paris, but also among the Americans and French, by whom his loss will be very much felt.

By the death of Dr. Johnston, the well-known American physician, the American colony in Paris has sustained a great loss. He had been more or less an invalid for some time, and the particular cause of his sufferings was somewhat obscure until about three years ago gastric symptoms manifested themselves, which seemed to remove all doubt as to the nature of his malady, though to the last he himself would not concur with the diagnosis pronounced by other physicians. Dr. Johnston was a "Southerner," and it was after the "struggle" that he came over to Europe as a newspaper correspondent, in which capacity he distinguished himself as a very clever writer and an able critic.

In 1866 he received permission to practise medicine in Paris, where he resided till the day of his death, and acquired great popularity and fame, not only as a medical practitioner, but also as a wise counsellor, and he was always consulted by the representatives of the American Government in this country upon all matters coming within the scope of his profession. He rendered valuable services to the sick and wounded during the siege of Paris and during the Commune, for which he was created Chevalier of the Legion of Honor, and later on was raised to the rank of Officer. He was also Officer of the Order of the Crown of Prussia. His funeral took place yesterday at the American Church in the Rue de Berri, the service being performed by Dr. Hough. The American Legation was officially represented. After the funeral ceremony was concluded the body was removed to the new American church, where it was laid in a vaulted chamber to await removal to the United States. The lamented physician was about sixty years of age, and he leaves a widow and an only son.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 7, to March 13, 1886.

ROBERTSON, R. L., First Lieutenant and Assistant Surgeon (Fort Ringold, Tex.). Granted leave of absence for one month. S. O. 29, Department of Texas, March 5, 1886.

Official List of Changes in the Medical Corps of the U. S. Navy, during the week ending March 13, 1886.

WOODS, GEORGE W., Surgeon. Ordered to Navy Yard, Mare Island, to relieve Surgeon W. K. Scofield, April 1, 1886.

SCOFIELD, W. K., Surgeon. Detached from Navy Yard, Mare Island, and wait orders.

THE HARVEST OF DOCTORS.—The statistician will soon be busy counting the number of graduates from the various medical colleges, and the old story of an overcrowded profession will be repeated.

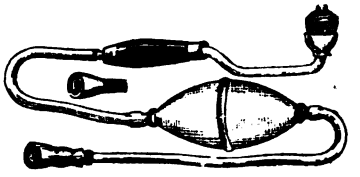
New Instruments.

A NEW RECTAL SYRINGE.

BY W. F. MORRISON, M.D.,

PROVIDENCE, R. I.

IT often happens that an irritable rectum or a sensitive sphincter ani prevents the administration of a rectal enema, and compels us to prescribe medicines which we



would like to avoid. To obviate this embarrassment, an instrument has been devised, and used with great satisfaction, which relieves this valuable method of treatment of many of its objectionable features.

This instrument consists of a long rubber tube with a bulb in the centre, like the ordinary household syringe, and is operated in the same way. On the receiving end is a leaden sinker, which by its weight holds the tube in its place in the basin. A fine strainer prevents foreign bodies entering the tube. The sinker and strainer may be readily detached, leaving the end like that of the ordinary syringe.

A nickel-plated tube through which the fluid passes is attached to the other end of the tube, and is so curved and finished that it forms a convenient handle.

A quarter of an inch from the tip a soft-rubber cushion is placed, which prevents the instrument from entering the rectum. This serves also to prevent the injecting fluid from escaping or flowing out at the side. It is seen that the tip does not pass through the sphincter ani, and in this respect the syringe differs from any other in use. It has been found that when the bulb is pressed the fluid is projected forward, and enters the rectum through the sphincter ani without any constrictive action of that muscle, and no peculiar feeling of resistance or pain is noticed.

This instrument is peculiarly valuable where the parts are sensitive, or where there are piles, fissures, or other diseased conditions. As a family syringe it is superior to the one now in use, which is inserted two inches into the rectum.

It is often impossible to administer an enema to a child on account of the local irritation caused by the introduction of the syringe. But with this device an enema of tepid water may be readily administered without exciting any unpleasant sensations.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 13, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
March 13, 1886.....	1	9	42	5	7	68	3	0
Deaths.								
March 13, 1886.....	0	5	6	4	1	35	2	0

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—The annual dinner of this institution was held at Delmonico's, Thursday evening, March 11, 1886. The President, Dr. D. B. St. John Roosa, in opening the after-dinner speaking of the evening, referred to the fact that its foundation, in 1882, marked a new era in medical progress in New York. This Faculty were the successors of the Post-Graduate Faculty of the University. In order to carry out the plan of post-graduate instruction in a proper way, seven gentlemen composing that Faculty resigned and founded this institution, devoted solely to the requirements of practitioners in medicine. Three of these seven were in the present Faculty; one had died. The Faculty of the Post-Graduate Medical School and Hospital, being the pioneers in this branch of medical teaching, had found and surmounted the many difficulties in the way of such an institution, and had so impressed the principles of this branch of teaching upon one, at least, of the gentlemen composing the Undergraduate Faculty of the institution with which they had formerly been connected, that he allowed his name to appear as one of the directors of another school, with similar objects in view, which was founded shortly after the appearance of the announcement of the establishment of the school now celebrating the fourth, and by far the most successful, year of its existence. Over five hundred gentlemen, engaged in the active practice of their profession in all parts of this country, the West Indies, Australia, England, and Turkey, had availed themselves of the opportunities offered for post-graduate study, and the Faculty, in carrying out their original plan, had found it necessary to found a hospital in connection with the school. He congratulated the Faculty on the present prosperous condition of the institution, and commented upon the fact that it had more than seventy gentlemen composing the teaching and clinical staff. Besides some sixty members of the Faculty, several visitors were present, among whom may be mentioned Mr. Whitelaw Reid, Mr. C. C. Beaman, Mr. C. H. Kellogg, Dr. J. K. Smith, U.S.A., Dr. Abram Jacobi, President New York Academy of Medicine, Dr. Daniel Lewis, President County Medical Society, Dr. F. P. Foster, and the Rev. Dr. McArthur, all of whom took occasion to congratulate the college upon its success in ingrafting such an advance in the study of the science of medicine upon the incomplete courses pursued in the general undergraduate schools. Professor F. R. Sturgis then presented a few facts in regard to the Hospital Department, showing its growth from simply a private hospital to one where all manner of disease may be treated, and the poor receive proper special medical advice. He also referred to the foundation of the *Babies' Ward*, due to the persistent efforts of one of the instructors in diseases of children, Dr. S. J. McNutt, and of the present necessity of larger and more commodious quarters. He also referred to the possibilities that might be accomplished in these departments were the school properly endowed. Professors A. H. Smith, C. L. Dana, A. J. C. Skene, Wm. A. Hammond, and others also spoke. One hundred and fifty practitioners have already attended the sessions of the school since May, 1885, and new matriculates appear each week.

FREQUENCY OF THE USE OF THE FORCEPS AND THE RESULTS.—Formerly, the forceps was hardly ever resorted to until the parturient woman, worn out by the protracted sufferings she had endured, was almost moribund, and when, too, the child was probably dead, in consequence of the long-continued pressure to which it had been subjected. Thus twenty-six years ago, Dr. J. Hall Davis, in his work "On Difficult Parturition," informs us that he only found it necessary to use the forceps on seven occasions in 7,371 deliveries, or once in every 1,053 labors. In the statistical reports of the successive Masters of the Dublin Lying-in Hospital we find the most conclusive evidence of the advantage which has followed the judicious use of the forceps in later years in that institution. During the Mastership of Dr. Joseph Clarke, from 1787 to 1794, there were 10,387 deliveries in the hospital, and the forceps was only applied in fourteen of these, with six deaths. But the more easily used perforator and crotchet were resorted to in forty-nine cases, with fifteen deaths; and in his private practice, extending over forty years, Dr. Clarke only once attempted to use the forceps. In Dr. Labatt's Mastership, from 1815 to 1822, during which time 21,867 births took place in the hospital, the forceps does not appear to have been used in any instance. From 1826 to 1833, Dr. Collins used the forceps in 24 cases out of a total of 16,654, but employed the perforator in no less than 118 cases, with 24 deaths. From 1842 to 1845, Dr. Charles Johnson used the forceps in 18, the vectis in 16, and the perforator in 54 cases, in 6,702 deliveries. From 1847 to 1854, in Dr. Shekleton's Mastership, there were 13,748 deliveries in the Rotunda, and the forceps was now used in no less than 220 of these, and the perforator in 54. Dr. McClintock, who ruled the hospital from 1854 to 1861, brought the forceps into still more frequent requisition, and in his last three years of office employed it or the vectis in 76 cases, or once in every 60, in 3,700 deliveries, while the number of craniotomy cases was reduced to 5. The succeeding Master, Dr. Denham, was a still more constant advocate for the timely use of the forceps. To Dr. Johnston, the next Master, belongs the credit, however, of having brought the forceps into more frequent use than had ever previously been the case. Thus, from November, 1868, to November, 1874, in 7,027 deliveries the forceps was used in no less than 639 cases, or about once in every 11 cases, with only 39 deaths, while the proportion of craniotomy or cephalotripsy cases was reduced to 29. The foregoing statistics, as I have already said, unquestionably demonstrate that, as the forceps is used more frequently the mortality in the cases in which it is employed diminishes; and, secondly, also shows the happy effect of the free use of the forceps in lessening the proportion of craniotomy cases.—*Dr. T. M. Madden.*

ALFRED CHARLES POST, M.D., LL.D.—Resolutions commemorative of his life and services, adopted by the New York Pathological Society, March 10, 1886:

Whereas, In the fulness of years, at the ripe age of eighty-one, our friend and long-time colleague has been taken from us in accordance with the faithful saying: "The days of our age are three score and ten; and though some men be so strong that they come to four score years, yet is then their strength but labor and sorrow: soon after it passeth away and they are gone."

Whereas, He was more than usually gifted, industrious, accurate, conscientious, pure, temperate, religious, skilled, learned in all medical, surgical, scientific, and classical lore, and gave this Society more than thirty years of his best labor. Be it

Resolved, That we will cherish his memory individually, and by preserving on our minutes and in our published transactions a truthful record of his useful and blameless life, to the end that other generations shall know him somewhat as we did.

Resolved, That while we sorrow and sympathize with his family and lineage in their great loss, we congratulate them that one so good and eminent was born among them, and was so long spared to them in health, prosperity, and honor.

Resolved, That, while we sorrow for ourselves, we rejoice that we had his wholesome example before us for such long series of years, and that part of his good repute will forever remain with us.

> "Nothing is here for tears; nothing to wail
> Or beat the breast; no weakness, no contempt,
> No dispraise or blame. Nothing but was good and fair,
> And what may quiet us in a life and death so noble."

He has but gone to the beginning of peace.

Signed, JOHN C. PETERS, M.D.,
WESLEY M. CARPENTER, M.D.,
ROYAL W. AMIDON, M.D

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 13 NEW YORK, MARCH 27, 1886 Whole No. 803

Original Articles.

FAITH-CURES.

BY JAMES HENDRIE LLOYD, A.M., M.D.,

INSTRUCTOR IN ELECTRO-THERAPEUTICS IN THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.

To offer up sacrifices to the gods is human—at least the history of the human race would indicate this fact. The motive, no doubt, is usually some pressing self-interest; the circumstances have been, too often, the perversity and ignorance of self-esteem. The stern soul of Achilles, in its brutal and conceited grief, must immolate twelve captives on the pyre of Patroclus—to do what? The primitive man, we are told, never laughs; life is a burden to him, "roots are scarce," and he is in daily conflict with his great enemy—nature; but he, too, has already taken up this habit of offering sacrifice. Disease is a demon to be exorcised; death is a hideous penalty to be averted; incantations are better than drugs. In the evolution of religious sentiment these things have doubtless changed; the law of the survival of the fittest has inevitably crowded out these crude and cruel systems. Whereas there were formerly idols, there are now ideals. The material sacrifices of other days are in a measure replaced by a self-consecration; the gifts of wine and bullocks are discarded for a state of mental erythism—a so-called spiritual effect.

It must be apparent to a careful inquirer, however, that there are what the biologists call *reversions* in these modern forms of religious thought, which reversions proclaim infallibly their kinship to the older types. When Pieta proclaims that she has been cured of her neurasthenic spine by faith, *i.e.*, by a sort of ideal abandonment of self, with prayer and unreasoning confidence, to the divinity, she does not differ essentially, in her non-appreciation of the physical laws of disease, from the Egyptians who sacrificed in the temples of Canopus. The fundamental fact, in each instance, is that the devotee believes that the universal laws of nature are suspended for his or her special benefit by supernatural power. The zeal of some of these modern disciples is not unlike that of Elijah and the followers of Ahab, when they contended together to exhibit the power of prayer; and the presumption of the unfortunate priests of Baal appears greater, only because of its more tragic climax, than that of the faith-curer, who said that he furnished his house by prayer, even to the melodeon! We do not seem far removed from the classics when we read the story of the death of Dom Pedro's mother. The Empress, it seems, was devoted to a miraculous image of the Virgin, which performed cures; but the image was at last offended being carried to the Empress when she was too ill to be ried to it, and not only allowed the imperial lady to die, it even killed off the Archbishop with cholera morbus.

A continued interest in this subject of faith-healing is erhaps excusable for several reasons. The mystery of ie cases, and the astonishing results claimed, challenge he attention, and not unfrequently puzzle the understanding. They are generally so related also as to throw iscredit and opprobrium upon the physicians who have nappened to be in attendance upon the case. Then, again, they may lead to some astounding development in rchæology, finance, or even in the dark sciences—as in he case at South Orange, N. J., where a woman, who had been a cripple for many years, was cured by faith; whereupon her husband immediately started a fund for $20,000 to enable him to recover a certain stone in the Sphynx, which is an infallible cure-all. Another reason is stated by the *Philadelphia Press*, which says that faith-cures are a good thing because, like the whipping-post in Delaware, they are cheap. But a more valid reason for interest in these cases, and the one which is the cause of this paper, is to endeavor to extricate a few of the exact facts from their perilous admixture with mysticism and fiction.

Some time in the early part of last year, the Society for Psychical Research, in Philadelphia, appointed a committee to investigate faith-cures. The writer was chairman of this committee, and in consequence has devoted more or less time to the subject. The object was intended to be entirely *psychical*, and not at all *polemic*. It was not proposed to enter into the general subject of answer to prayer, but simply to investigate these individual cases of alleged faith-cure. It was the personal belief of the writer that such investigations would lead to some interesting facts in psychology and, perhaps, psychiatry. Esquirol has said, "Generally, mental alienation is terminated by sensible crises," and it seemed a good thing to determine how far some of our remarkable cases were only these "sensible crises" occurring in a neurotic constitution. It was, of course, desirable to avoid the error of going over old ground entirely; it was well to be mindful of the hackneyed facts of the stock text-books and of the elaborated work of Tuke.[1] With the aforesaid object in view, the investigation was pushed with some vigor, and while it did not disclose the wealth of facts in matters psychical which had been hoped, it did bring to light a variety of interesting and even remarkable truths. A verbal report to the Society closed the committee's labors, and the chairman has felt free to record some of his observations.

First. The method pursued and difficulties met with Two series of questions were proposed, as follows:

A. (To Faith-curer): I. What diseases have you cured, especially *fevers?* (Typhoid, small-pox, scarlatina, measles, and graver forms of malaria?) *Nervous diseases?* (Paralysis, what form? Apoplexy, chorea, epilepsy?) *Tumors* (cancer and ovarian?) *Wounds* and *fractures?*

II. *Method?* (By faith alone, or were surgical or therapeutic means used in any cases?)

III. Patients' names and addresses, which would not be printed if so requested.

B. (To Patient): I. *History of case?* Cause, course, symptoms, duration, and treatment, with results? Condition just preceding cure? (Had patient been improving, growing worse, or stationary?)

II. *The cure?* Circumstances which induced application? Condition of mind at first—belief or doubt? Length of time to effect cure?

III. *Recent history.* Thoroughness of cure? Interval since cure? Relapses—how many? Is improvement more marked than that obtained by medical treatment?

The above questions were used for those who lived at a distance. In all cases where practicable a personal examination was requested; if such examination were not practicable the aid of the family doctor was solicited. It soon became apparent, in the search for cases, that the city of Philadelphia had not enjoyed the therapeutic benefits of faith in that superabundance which one might

[1] Influence of the Mind upon the Body, by D. Hack Tuke.

have supposed, and which seems to have been the fortune of more distant localities. What there is in the latitude and longitude of the Quaker City that predisposes its constitution to resist this mild remedy must be left for sanitarians to determine. It is certain, however, that, although the search was industrious, and even announced in the public press, and application made to the most distinguished practitioners of the cure (as shall be seen), there were only negative results obtained, which are nevertheless of value.

It did not seem difficult to obtain the addresses of cases in Boston, New York, and the West, but most of the letters written to them remain unanswered to this day, while some of the answers which were received await our more detailed criticism. Captain R. Kelso Carter, quite a distinguished supporter of the doctrine, and who has been announced himself as cured of "fatal heart disease," very kindly wrote a letter containing the following extracts: "Doubtless some healed ones would innocently submit to a medical examination. I would not, believing it to be dishonoring to my great Physician. I give my testimony—and I say Jesus cured me. I do not propose to submit to tests, to endorse God's notes of promise by the signature of men." The reports written by the patients themselves proved to be always so inexact and loose-jointed, that it was quite impossible often to make out the semblance of a diagnosis. Their likeness, indeed, to the cases advertised by the patent medicine men was very striking. They often, too, had a little of the tone of a modern clergyman's endorsement of soap.[1]

Dr. Charles Cullis, of Boston, is no doubt one of the most prominent practitioners of this newest school. The writer addressed a letter to him and received a very brief and unsympathetic reply, in which he said that he had cured all the diseases mentioned "except perhaps *small-pox*," which had never been presented to him. The letter contained the following curious passage: "In regard to wounds and fractures, I should employ a surgical aid and trust the Lord to perform the healing." This seems to be a specimen of tergiversation; and moreover, it will presently appear that herein Dr. Cullis is not up to the traditions of his profession. Shortly after this letter an article in the *Century Magazine*[2] contained a very able criticism from the genuine orthodox standpoint, and taxed Dr. Cullis and his friends with lack of candor for not publishing lists, as our hospitals do, of the "dead" and "uncured" as well as "cured." Another letter was then addressed to Dr. Cullis soliciting such a list, but the letter has never been answered. If the doctor desires at some future day to make up such a list, he is at liberty to draw examples from this paper.

In October last a Convention of Faith-curites was held in Philadelphia. A letter was addressed to this body, which included many illustrious delegates, inviting their co-operation in this good work for humanity and the cause of truth. Cases were especially requested for examination. As no notice was taken of the letter a delegate was asked subsequently for the reason. He replied that the convention had tabled the letter because it did not consider such investigation to be part of its business. Rev. A. B. Simpson writes: "I should as soon expose the sanctity of my home life to the public eye, as the sacred work of God in human bodies . . . to scientific criticism;" but he appears to forget that the "sanctity of his home" is a purely personal matter to himself, whereas the healing of human bodies is of very near interest to every individual who has one; and that the subject is open to scientific criticism, and will stand or fall by it *alone*. Rev. John E. Cookman, who is an enthusiast, writes, "I do not say it in any captious or hypercritical way, but as an honest and fair criticism, . . . that a society for psychical research might have been formed in Jerusalem, Judea, Samaria, or Galilee, in the days of our Divine Lord, to investigate the cases of healing wrought by Him, with as much pertinency as your present society." The various possible applications of this remarkable paragraph must be made by each reader for himself. Mr. Cookman was himself healed by faith of "nervous prostration;" and, with great latitudinarianism, in spite of the above paragraph, sent several addresses of patients.

Second. The results. It was not possible to give some cases thorough examination because of the delicacy of the subject. This was true of obstetrical cases, in some of which there have probably been remarkable and speedy "cures;" in fact someone has spoken of the whole subject as the "*miraculum naturæ*." One physician reported a case, which happened at a distance, of a woman who shut herself in her room when her pains came upon her, and relied entirely upon divine care in her delivery, but who unfortunately took to flooding and would have lost her life, had not a physician been called to her side. There may be other cases. But it is not remarkable that some of these ladies succeed in their rash enterprise, when we consider what a large percentage of women are delivered successfully every year, with no one but ignorant midwives in attendance.

The following case came directly under the writer's notice. An infant, aged a few months, had a very bad congenital vascular nævus of the upper lip, which was very disfiguring and caused the family much concern. Dr. Cullis came this way, and held meetings in a church edifice which was converted into a free dispensary for the treatment of all manners of disease by faith. Prayers were solicited for this child, and offered for it, but as every medical man would expect, the nævus got no better, but only worse. This was in every sense a crucial test. The failure could not have been due to a "lack of faith" (which is the favorite argument), because, as the infant was too young to bear this reproach, the faith of the friends would suffice, and even if that were lacking there was the vicarious faith of Dr. Cullis. The writer had the opportunity afterward of seeing Professor Agnew excise this growth and effect a *scientific* cure.

The following case is brought forward as a specimen of the rambling pathology, which renders a scientific diagnosis very hazardous. M. E. D—— has published her own case in a tract, and has further described it in a letter which was revised by her physician, who is a female doctor. She "inherited a weak back from her mother, who had spinal disease." She fell down-stairs, which added to her inheritance. Then she had "malarial fever;" then came "seven attacks of diphtheria," which went "down the passages and into the stomach," and caused a diphtheritic ulceration of the stomach "which continued for four years." Twice in that time there were abscesses (location not stated) "which discharged a pint from the diphtheria." "Also I had paralysis." Then came a hyperæsthetic spine, and prospects of being "strapped to the bed," because "her limb was in continual motion." Then she had trance-like spells, with closed eyes, but perfect consciousness. Then the account becomes grewsome in the extreme. "I well remember the first attack of the kind. My doctor was away, and my father was away from home also; my mother was alone; for hours she waited, hesitating whether to send for the undertaker or to await the return of my father. I heard all that was said, and was in an agony of fear lest I should be put into an ice-casket alive. At last my mother discovered a slight motion of the eyes, and she continued working with me until I could speak." Then came lateral curvature of the spine; then the opium-habit; then contracture of leg-muscles; then anæsthesia of the skin; then the sum total of the pathology is given as "congestion of the spinal cord at the seat of the lumbar plexus." One is reminded of the poor ghost in Dante:

> Thus one perhaps
> Hath been by force of palsy clean transposed,
> But I ne'er saw it nor believe it so.

[1] See advertisement by Rev. H. W. Beecher.
[2] Faith-cures, by A. F. Schauffler, December, 1885.

A detailed criticism of such a case is, of course, not possible, but medical men will see at a glance that *Hysteria* is written in big letters all over it. Another, and parallel, case is that of Miss Carrie Judd, of Buffalo, as published by herself. It is probable that no layman, or woman, has ever written a more exact account of chronic hysterical invalidism, than has Miss Judd in her description of her own case.[1] She is to be complimented on the easy professional swing of her pen—up to that place where she said that her disease "had grown into blood consumption," which term savors too much of the patent-medicine puff. The patient was paralyzed, bed-ridden, hypersensitive and tyrannical to the last degree—as shown by the "silent house," as she calls her home, from which it was scarcely possible to bury her grandmother, because the patient was "so low." It is quite unnecessary to go into the details of her case; medical literature abounds in such, and in their not unfrequently sudden cure. The writer calls to mind at this moment cases in the writings of Laycock, Skey, Mitchell, and Emmet, which are more striking than that of Miss Judd.

It has always been the reproach of the faith-curers that their successes are with the mere *functional* disorders, and that they have never produced an effect upon serious *organic* affections. But they have recently had several champions come to the front with quite a formidable array of cases of cancers, fractures, and other severe ills. For instance, the Rev. R. L. Stanton has written a pamphlet of almost one hundred pages[2]—a very trenchant work and well calculated to win a certain class of converts and propagate error; in which he parades the most startling cures of tumors, cancers, and broken bones. But if all of his cases are not more authentic than the one quoted below, let us hope that his book will be expurgated before it reaches another edition. The case referred to is that of a little son of Dr. Reed, a physician of Philadelphia, who fell and broke both the bones of his forearm. The account says that the patient insisted the following morning upon having the dressings removed, because Jesus had made it well; that the child was so confident and persistent that on the third day the surgeon, who was the boy's uncle, did remove the splints and exclaimed, "It is well, absolutely well;" and "hastened to the door for air to keep from fainting." This case has been so widely circulated, and in such good faith, that it was very desirable to know more about it. It so happens that the patient is now grown to manhood, and is himself a graduate in medicine from the University of Pennsylvania. A letter was addressed to him and the following very interesting and amusing reply was received:

"DEAR SIR: The case you cite, when robbed of all its sensational surroundings, is as follows:

"The child was a spoiled youngster who would have his own way, and when he had a "*green stick*" fracture of the forearm, after having had it bandaged for several days, concluded he would much prefer going *without* a splint. . . .

"To please the spoiled child the splint was removed and the arm carefully adjusted in a sling. As a matter of course, the bone soon united, as is customary in children, and being only partially broken, of course all the sooner. This is the miracle!

"Some nurse, or crank, or religious enthusiast, ignorant of matters physiological and histological, evidently started the story, and unfortunately my name—for I am the party—is being circulated in circles of faith-curites and is given the sort of notoriety I do not crave.

"I have been pestered with letters on the subject from ministers and members of the fraternity who seek to rob us of our patients, but have consigned all such letters to my waste-basket. . . . I take pleasure in giving you these few notes, trusting they will satisfy your mind in regard to this example of faith-cure.

"Very respectfully yours,

"CARL H. REED."

The Rev. Mr. Stanton ought to make a dog-ear on this leaf for future reference, because this letter of Dr. Reed's spoils the most interesting story of supernatural healing of a fracture that has appeared since the day when Diomedes threw a great stone at Æneas and caused a compound fracture of the femur, which is supposed to have been cured by Venus, the divine mother of the injured hero. This case is reported by Homer, and has probably not been investigated.

During the past autumn the writer's attention was several times called to a home for sick and injured in Philadelphia, where the treatment, support, and everything was by faith. It was kept by a medical graduate of Harvard, who is an ex-member of Congress, and was announced to contain a room in which were piled up the crutches and other surgical gear which patients had cast off after their miraculous deliverance from disease. The impression conveyed by reports was that troops of patients were daily cured, and that old cast-off canes were as plentiful as at the once notorious shrine of Knock. The writer visited this house, and was received graciously on two occasions; he was shown all over the establishment, and noted that no patients were there at that time. Inquiry was made for the room of discarded crutches, whereupon the proprietor smiled, as though he saw the joke, and said that that story had been somewhat exaggerated—in fact, he had but *one pair* of crutches, and that pair was from a patient who probably had never needed them! He then went on to describe the case. The patient was a woman, who had been diagnosed at a homœopathic hospital to have lateral curvature of the spine, but for his part he was not certain about it, because he doubted the homœopathic ability to make a correct diagnosis. When asked if he had not made his own diagnosis, he said he had not time to do that in his peculiar work, that he could not trouble himself about diagnoses, but still he thought he detected the curvature under the patient's dress; and as he prayed he felt it suddenly straighten. When asked if the patient was entirely cured he said, "No, she still has the curvature!" The address of this patient was withheld.

A lady in New England took great pains to report a case, and did it so well, that an important deduction can be drawn from it. It was a case of hip-joint disease, or bone disease, with large discharging sinuses, in which rubber drainage-tubes had been kept, as is customary, for a long period. The patient, a child with firm faith, attended a "novena" (a sort of nine days' devotion), at a Roman Catholic church, and at the same time threw aside tubes and treatment. In about *two months* the sores had healed, but the leg remained stiff. The obvious criticism of this case is the fact that a miracle would not have taken two months, and that the cure was not much to boast of as divine, if the leg remained stiff. The physician to the case is reported as attributing the cure, very wisely, to a fortuitous removal of the tubes at just the right time.

Miss Louisa M. Alcott writes of the *mind-cure* (which is a kindred branch with faith-cure), that although it failed in her case, she is convinced there is a "great truth" in it, but she does not say what the great truth is. As for her, "homœopathy has worked more miracles than the mind-cure." This will probably confirm some of us in the suspicion that homœopathy is another branch of psycho-therapeutics.

The conclusion of the whole matter brings us to one more point. The mystical language used by these people is often responsible for many of their errors. This language can often be neither parsed nor translated. Said one good woman to the writer, "You cannot understand these things because they are spiritual, and you do not

[1] Have Faith in God. By Carrie F. Judd.
[2] Healing through Faith, etc.

believe;" as though the alleged healing of the cancer in the Rev. Mahan's wife was not materialistic enough to be looked after. A clergyman wrote that he hoped the "ethical nature of disease" (whatever that is) would be explored. Some few of the advanced guard have forged ahead to the only one logical conclusion, and, with Stockmayer, proclaim that with one great combined, cumulative exercise of faith by the Christian Church death will be eventually abolished from the world.

Far be it from the writer to ignore the just claims of religious emotion upon the mind of man; but it is sometimes comfort to reflect, with Epicurus of old, that those are not undevout who deny the gods of the many, but those who attribute to the gods the opinions of the many

ABORTIVE TREATMENT OF GONORRHŒA.

By S. O. VANDER POEL, JR., M.D.

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For about three years almost daily systematic observations as to the local effect of various drugs upon the urethral discharge in gonorrhœa have been made at the Dispensary of Roosevelt Hospital under the supervision of Dr. William S. Halsted.

Starting with the premise that gonorrhœa proper is due to a specific germ, Neisser's gonococcus[1]—and there can at present be no reasonable doubt as to its existence or specific character, since Neisser's claims have been confirmed by so many careful observers (Aufrecht,[2] Leistikow,[3] Krause,[4] Wolff,[5] Eschbaum,[6] Bokai,[7] Bockhart,[8] and Podres[9])—and recognizing that in order to cure the discharge its cause must be eliminated, it was sought to find a substance which would destroy the micrococcus and at the same time not injure the urethral mucous membrane. It is my purpose to present a method, believed to be abortive, first considering the various steps that led to it, and from which it was evolved. In all the cases that form the basis of these experiments the microscope was used in the examination of the discharge, both for purpose of diagnosis and to note the effect, if any, the measure used had in destroying the micrococcus. All previous claims to abortive treatment in which this precaution was not taken can scarcely be accepted as well-authenticated facts when we consider the danger of confounding cases of specific urethritis, due to the presence of a germ, with the non-specific variety occasioned by exposure to leucorrhœal discharge, to the secretion from an endocervicitis, to menstrual fluid, acrid vaginal discharges, traumatic influences, etc., in none of which is the gonococcus found.

Hot-water irrigation, strongly advocated by Vajda (Schmidt's *Jahrbücher*, 1880, p. 166), was among the first substances used. It acts as a sedative to the inflamed mucous membrane, and is consequently grateful and soothing to the patient; its effect on the gonococci is to apparently diminish them in number, provided the irrigation is performed sufficiently frequent to keep the urethra free from discharge, its action being simply mechanical, that is to say, that as fast as the germs are formed in the mucous membrane and find their way into the urethra they are washed out by the irrigation, but as the hot water produces in the mucous membrane a soil in which they propagate rapidly, and exerts no action in destroying them, they are found as numerous as before just so soon as the irrigation is discontinued. In order to test its efficacy in cleansing the urethra I have had a patient irrigate at a single sitting with eight quarts of hot water. Microscopic examination of the urine first passed after the irrigation disclosed pus-cells in large quantities, demonstrating that it is practically impossible by means of bland fluids to free the canal.

A somewhat extensive use of the short catheter as a means of introducing fluids into the urethra in gonorrhœa, first suggested by I. P. Prince (*Medical Times and Gazette*, October, 1875), has led us to abandon it, in consequence of the pain occasioned upon introduction. The testimony of patients upon whom both the catheter and the blunt nozzle have been used is unquestionably in favor of the latter.

A saturated solution of boric acid in cold water is perhaps one of the most soothing applications that can be employed in urethritis, far exceeding hot water in allaying the irritation and burning. But the same objections are applicable to it as to hot water, namely, that its destructive action on the gonococcus is almost nil, as after its continued use for weeks, they are still to be found in the discharge. It would seem that the ordinary complications of gonorrhœa, cystitis and epididymitis, are more likely to occur during the use of non- or feebly-antiseptic substances, such as hot water or boric acid; the micrococci being carried into the bladder, there to kindle inflammation, or being absorbed by the lymphatics which accompany the vas deferens travel through them to reach the epididymis.

It was believed that if iodoform could be brought into intimate contact with the inflamed mucous membrane, in consequence of its anæsthetic properties and its controlling influence in governing the migration of leucocytes, it would prove serviceable. Watson Cheyne, in the *British Medical Journal* for July, 1880, claimed for it a specific abortive action when introduced in the form of soluble bougies with eucalyptus oil, but he has since retracted his assertion. Two years since it was used by Dr. Halsted in the form of an ointment made up with cold cream in the proportion of 1 to 6, or 1 to 8, and injected through a blunt glass nozzle from compressible metallic tubes similar to those in which artists' pigments are sold. By this means half an ounce of the ointment could be introduced without pain or discomfort, which was the principal objection to the soluble bougies of Watson Cheyne. It was found most serviceable in quieting frequent micturition, and would also allay the annoying itching or tickling, so frequently experienced in the latter stages of gonorrhœa. But in my hands it did not materially diminish the amount of discharge, or shorten the duration of the disease. Among the other drugs that were successively used in a series of cases, and in most instances with indifferent success, may be mentioned acetate and sulphate of zinc, sulphate of lead, carbolic acid, salicylic acid, peroxide of hydrogen,[1] tannic acid, nitrate of silver, and bichloride of mercury.

The latter, when used as it was at first, in the strength of 1 to 8,000 or 1 to 10,000, a single injection with the ordinary urethral syringe being given daily, was found to excite so much inflammatory reaction that it was necessary to supplement it with irrigations of boric acid. Even with this precaution it was impossible to continue it more than two or three days, for if persevered with it occasioned painful and frequent micturition with bloody discharge, and in one instance temporary retention. Notwithstanding these disagreeable features, under its use the discharge rapidly diminished, the gonococcus could no longer be found, but would reappear after the lapse of some days. A substitution of a milder solution, 1 to 20,000, when introduced in the same manner, was likewise too irritating to be continued long enough to kill all the germs. Podres has had a similar experience with the bichloride when used in this strength, 1 to 20,000, but in

[1] Neisser, A.: Ueber eine der Gonorrhöe eigenthümliche Mikrococcusform, Breslau Centralblatt f. Med. Wissen., Nr. 28, 1879, und Deutsche Med. Wochenschr., 1882, Nr. 20.
[2] Aufrecht: Patholog. Mittheilungen.
[3] Leistikow: Charité-Annalen, 1882.
[4] Krause: Centralbl. f. prakt. Augenheilk., 1882, v.
[5] Wolff: Breslauer ärztl. Zeitschr., 1883.
[6] Eschbaum: Ein Beitrag z. Aetiologie der gonorrh. Secrete, Deutsche Med. Wochenschr., Nr. 13, 1883.
[7] Bokai: Vierteljahresschr. f. Derm. u. Syph., 1881, Heft 1.
[8] M. Bockhart: Beitrag zur Aetiologie u. Pathologie des Harnröhrentrippers, Vierteljahresschr., 1883, Heft 1.
[9] Podres, A.: Ueber Blennorrhöe des Harnapparates beim Manne, Vierteljahresschr. f. Derm. u. Syph., 1885, Heft 3 und 4.

[1] Centralblatt f. d. Med. Wissen., 1882, No. 52.

a few instances—where the urethra was unusually tolerant and he could repeat the injection every two hours during the day—claimed to have aborted the disease in five days. His present method is to begin with 1 to 20,000 and continue just so long as the urethra will tolerate it, using for the remainder of the course the ordinary astringent solutions. With this plan the average time taken to effect a cure is three weeks.

As a result of the experiments thus far it was manifest that the bichloride, in spite of the irritation caused, seemed best to control the disease, and the necessity of employing an agent that would kill bacteria was evident. The investigations of Koch upon the culture and pathogenesis of gonococci, from which most of the antiseptic forms of treatment are deduced, would show that while the bichloride of mercury is by far the most active agent in destroying the germ in artificial cultures, it was necessary to use it in comparatively strong solutions (1 to 20,000), too strong in fact to be continuously borne by the urethra.

The experiment of Bockhart indicates that artificial cultures of gonococci grown upon blood-serum are more virulent than those which ordinarily develop in mucous membranes. He inoculated the urethra of a paralytic dement with an artificial culture of gonococci four removed, and established a gonorrhœa of such severity that the subject died in ten days. The mucous membrane and lymph-channels of the entire genito-urinary tract were infiltrated with the micro-organisms, while a metastatic abscess of the kidney, and a necrotic spot in the bladder were filled with the germs. It is probable, then, that the sterilized blood-serum upon which the germs were cultivated formed a better propagating soil, giving them greater life, power, and resistance to germicides than is furnished by the urethra. The fact that gonococci propagate in the mucous membrane, from which they gradually find their way into the urethra, and are not to any extent developed in the canal itself, explains why they are not all destroyed by the stronger solutions. Those that the bichloride comes in contact with in the urethra are killed, but as it is impossible, in consequence of its irritating properties, to continue it more than a few days, the ones that are forming beneath the epithelial layer of the mucous membrane are not reached, and as they migrate into the urethra, re-establish the discharge. For experience shows when using these stronger solutions the gonococci disappear, and the amount of discharge materially diminishes just so long as they can be continued, only, however, to reappear when we are obliged to discontinue them.

These considerations suggested the idea of irrigating the urethra with large quantities—two to three quarts—at each sitting of a weak solution of bichloride of mercury (1 to 40,000) and repeating the procedure three or four times a day. The modus operandi is simple, and when once explained and demonstrated to a patient can be effectively carried out by him at home. These irrigations are best accomplished by hydrostatic pressure, the most convenient form being the ordinary fountain syringe, with a blunt glass nozzle of sufficient size to occlude the meatus. By suspending the syringe at a proper height a force is produced which will comfortably distend the urethra, avoiding a pressure which would carry the injected material into the bladder, although experience shows that its presence there is productive of no harm, since the germs are previously destroyed by the antiseptic. About four feet above the pelvis of a patient as he sits upon the edge of a chair has been found most serviceable. The stream is then permitted to flow continuously, the nozzle being held in the meatus, so that the fluid may permeate the entire length of the canal, and at the same time allow of its escape by the side of the nozzle. The sensations of the patient are the best guide for determining the depth to which the fluid permeates. When it reaches the neighborhood of the prostate, it produces a sensation similar to that experienced in urinating. With a little experience they readily acquire the technique necessary to carry the fluid well back in the canal, and at the same time permit of its regurgitation through the meatus by the side of the nozzle. Great differences will be found in urethræ as to their susceptibility to the bichloride solutions, as frequently cases are seen which cannot continuously use irrigations as weak as 1 to 40,000, and again there are those who can bear it as strong as 1 to 20,000 without inducing an irritation sufficient to cause its discontinuance. It would seem, then, a safe rule to begin with 1 to 40,000, and if it is well borne, producing but little irritation with a slight burning after irrigation, and no frequency in micturition, it may be continued, but if these symptoms are intensified, and should be accompanied by a blood-tinged discharge, it is best either to discontinue it for a day or two, or substitute a weaker solution, 1 to 60,000.

This treatment has now been employed in eight cases, by four different observers, who have, without exception, succeeded in aborting the disease in from eight to fourteen days. The diagnosis was verified by microscopic examination, gonococci being found in each instance. Subsequently the discharge was examined daily, with the result of showing the disappearance of gonococci on the third to sixth day, the discharge itself daily diminishing, to cease entirely on from the fifth to tenth day. After the microscope has shown the germs to be no longer present in the discharge, it is still necessary—in order to reach those germs which are in the lymph-spaces of the mucous membrane, to continue the irrigations for three days, when, if the discharge has not stopped, it is advisable to use some mild astringent with the ordinary urethral syringe. A solution of nitrate of silver, gr. ¼ to ʒ j., will be found most serviceable in checking this discharge, which is caused by the irritating action of the bichloride.

The entire freedom of the patients thus far treated from the ordinary annoyances, burning and scalding, with frequent micturition, is worthy of note. In fact, so slight discomfort did they experience, that there was little to remind them of their trouble, save the necessity of frequent irrigation. Although the number of cases in which this plan has been followed is small, the fact that four different observers have succeeded in aborting the disease in all the cases in which it was tried, and have not been able to do so by any other method, would tend to give it additional weight.

The complications—epididymitis, cystitis, and rheumatism—that not infrequently arise during the course of a blennorrhœa, are usually the most distressing part of the ailment, prolonging its duration and intensifying the suffering. Epididymitis, perhaps the most frequent, can often be anticipated by recognising the premonitory pain and soreness complained of along the course of the vas deferens. If the painful area be thoroughly but lightly touched with the thermo-cautery the pain will cease, and perhaps the progress of the inflammation along the course of the lymphatics will be arrested. When the epididymis is involved, applications of the cautery will cause the pain immediately to subside. It is necessary, however, that the point should not be heated beyond a dull red, and that the testicle be quickly and lightly touched, producing a general blush over the surface, such as is seen after the application of a sinapism. In several instances where this has apparently failed to give relief a very small hydrocele was found, and when this was emptied with a hypodermic syringe, the pain would disappear. After the use of the cautery a thick poultice of iodoform ointment, 1 to 6, will materially shorten the course of the inflammation.

Rheumatism occurs too frequently during the course of gonorrhœa to be considered a mere coincidence, even if we did not have the incontrovertible fact of the presence of gonococci in the fluids of the inflamed joints. Generally these rheumatic complications are among the most obstinate we have to deal with during the course of a

blennorrhœa, it frequently taking months to effect a cure. The bichloride would likewise here seem to play an effective *rôle*. If, for example, it be the knee or other large joint that is involved, and the capsule is distended from intra-articular accumulations, it should be aspirated with antiseptic precautions, and a solution of 1 to 20,000 bichloride of mercury thrown into the joint-cavity. This was recently done in a case at Bellevue Hospital, where a man had been confined to bed for some days with gonorrhœal effusion in the knee-joint, over which morphine had but little effect in controlling the pain. He was immediately relieved by the operation and the following day was up and about the ward. When the inflammation is diffused in the fibrous tissues surrounding a joint, as frequently occurs about the wrist or ankle, a hypodermic injection of 1 to 10,000 down to the bone will yield at times most satisfactory results, a preliminary injection of cocaine being given. A girl of five years of age was brought to the dispensary with an inflamed shoulder-joint. It being an invariable rule to examine the urethræ of cases with acute articular trouble, gonorrhœa was found, the diagnosis being verified by the microscope. In this case deep injections, down to the bone, of bichloride were made rapidly, relieving the symptoms, for which she had been unsuccessfully treated outside by the ordinary anti-rheumatics. For cystitis the ordinary irrigations with mild antiseptics have proved most serviceable, boric acid being preferred. Since we began to use bichloride, even when experimenting with the strong solutions 1 to 8,000 or 1 to 10,000, none of these complications have been met with.

Cases of so-called gleet, for which the passage of a sound is recommended, are frequently seen to grow worse after an instrument has been introduced, while in others decided benefit follows its use. The explanation of this apparent contradiction would seem to rest in the fact that in the first instance gonococci are present in the secretion, and as the sound passes it spreads the infectious material along the canal, developing new foci of disease, and if by chance the tip of the sound carry any of the discharge into the bladder a cystitis may be established.[1] When benefit is derived from the sound the discharge is usually prostatic, contains no gonococci, and is attended by a swollen and slightly tender prostate. It can, therefore, we think, safely be asserted that the passage of a sound does no good, and frequently is productive of much harm, just so long as the micro-organisms are demonstrable in the discharge.

In cases of gleet the character of the discharge and the presence or absence of gonococci will frequently give valuable hints in treatment. If the discharge assumes a fibro-plastic character, adheres tenaciously to the urethral wall, forms a coating on the mucous membrane, and contains gonococci, it will resist most obstinately the ordinary astringent injections, although the amount of discharge that escapes through the meatus is small. If such a variety be first thoroughly irrigated with some warm solution (preferably boric acid), in order to dissolve off the tenacious secretion, it can be readily cured by bichloride irrigations.

Then again, other cases of long-standing discharge will present themselves, who tell you that they see but little discharge during the day, but sometimes after urination and in the morning a drop or two of thick pus will present itself at the meatus. Endoscopic examination will often show the fossa navicularis or some of the sinuses in its neighborhood to be the seat of trouble. If this be found it is advisable to manipulate the urethra externally at this point, when generally a drop of thick pus can be made to exude, which leaves a surface upon which the bichloride can be effectively used. A combination of both these varieties of gleet may exist in the same case, when it is necessary to recognize the seat of the trouble and character of the discharge before a cure can be effected.

[1] James Foulis, Edinburgh: Brit. Med. Jour., January 20, 1886.

DIPHTHERIA AND ITS TREATMENT.

By SAMUEL W. SMITH, M.D.,

NEW YORK.

MORTALITY reports establish the fact that diphtheria ranks among the most fatal diseases known to medical science, as is shown by the following statistics kindly furnished me by Dr. John T. Nagle, Deputy Register of Records in the Health Department of New York City:

Year.	Cases reported.	Deaths.	Per cent.
1880	3,307	1,390	42.032
1881	5,272	2,249	42.659
1882	3,507	1,525	43.484
1883	2,906	1,009	34.377
1884	2,201	1,090	49.477

An average of 42.405 per cent.

From January 1, 1885, to September 1, 1885, the statistics given me by months are as follows:

January reported 221 cases, with 101 deaths, or 45.701 per cent.; February reported 259 cases, 110 deaths, or 42.471 per cent.; March reported 229 cases, 118 deaths, or 51.528 per cent.; April reported 236 cases, 103 deaths, or 43.644 per cent.; May reported 287 cases, 116 deaths, or 40 per cent.; June reported 253 cases, 111 deaths, or 43.873 per cent.; July reported 202 cases, 98 deaths, or 48.514 per cent.; August reported 133 cases, 71 deaths, or 53.383 per cent.; September reported 149 cases, 83 deaths, or 55.711 per cent., or an average of 47.209 per cent.

Hence this disease becomes a theme of corresponding interest to every conscientious practitioner of medicine, and when one hears a physician say (as was said to the writer not long since in consultation) that he had treated scores of cases of diphtheria every year, amounting to several hundred, without a single fatal result, one is warranted in doubting the reliability of the man and justified in regarding his "facts as fictions."

Divers theories respecting the character and treatment of diphtheria are held by equally respectable authorities, which I shall not attempt to discuss in this paper, but state such facts as appeared in the study of the following thirty cases, treated by me, as well and concisely as I can.

I came to have an extended experience in dealing with this disease, and devoted especial study to it, some four years since, in company with Dr. C. E. Billington, whose most excellent paper, read before the Academy of Medicine a short time previous, upon "Diphtheria and its Treatment," I had perused with much interest. I determined at the first opportunity to test its efficacy. Dr. Billington had several cases of diphtheria which we jointly treated, and in which we religiously followed the plan of treatment previously set forth in his paper. The result was flattering, there being two deaths in ten cases treated by us, and both had become laryngeal at the time of our first visit.

This plan of treatment, which I have adopted since it became known to me in every case I have been called upon to treat, and which I gladly make so prominent in this paper, consists in the most thorough medication of the parts affected with a solution composed of one teaspoonful of common salt to a pint of lukewarm water, to be forced with a common ear-syringe into the nostrils and throat of the patient every two hours. I added to this salt-water solution one to two drachms soda biborate, a solution to be used with a hand atomizer every half hour, composed of aqua calcis, oz. iv.; acid. carbol., gtt. x.; and the employment internally of tr. ferri chloridi with glycerine, alternated every half hour with potass. chloras.

I consider the soda biborate one of the best and least irritating of antiseptic solutions, especially to the nasal mucous membrane. The sodium chloride certainly promotes osmotic action; and when the diphtheritic membrane is not sufficiently loosened to be washed away by

the stream of antiseptic solution from the syringe, this action facilitates the contact of the solution with the decomposing putrescent material underlying the diphtheritic deposit.

The iron, I believe, acts as nearly as a specific in this disease as it does in all forms of erysipelas, and in small doses, frequently repeated, is of great value for its local effect, and the glycerine seems to have a sustaining power of great value.

The large doses of tr. ferri chloridi recommended by some to children from three to five years of age—half a drachm to a drachm every hour or two—I think injudicious, unwise, and unscientific, and for this reason, if given in excess of amount entering into the circulation it must necessarily act as a local irritant to the digestive tract. It is a recognized fact that one of the great dangers to the life of the diphtheritic patient, whether the local affection be primarily or secondary to the disease, is the septic poisoning by the absorption of the decomposing putrescent material as the result of the local necrotic process. My observation in the treatment of the disease has proved to my mind, beyond a doubt, that this local septic poisoning is the only danger to the life of the patient, except in those cases where the disease becomes laryngeal, or extends to the trachea and bronchi. Hence, I would say to those who would call upon the skin, kidneys, and intestines with their shot-gun style of administering drugs for the purpose of eliminating the poison of diphtheria, that to my mind it would be as reasonable to suppose that the septic poisoning from a decomposing retained placenta could as easily be eliminated by the use of drugs in the stomach, or a dirty-faced boy made clean by a dose of castor-oil.

FORMULÆ.

I.—℞. Sodium chlorid..... ʒ j.
Sodæ biborat..... ʒ j.–ʒ ij.
Aquæ fervens..... Oj.

M. et Sig.—Use with a syringe into the nose and throat every two hours, lukewarm.

II.—℞. Acid. carbol..... gtt. x.
Aquæ calcis..... ℥ iv.

M. et Sig.—Use with a hand atomizer in the nose and throat every half hour.

III.—℞. Tr. ferri chloridi..... ʒ j.
Glycerine..... ℥ j.
Aquæ..... ℥ jss.

M. et Sig.—Dose: a teaspoonful every hour.

IV.—℞. Potass. chlorat..... ʒ ss.–ʒ ij.
Glycerine..... ℥ ss.
Aquæ calcis..... ℥ ijss.

M. et Sig.—Dose: a teaspoonful every hour, alternated with No. III.

When an unirritating astringent is deemed advisable, I add to No. I. formula tr. kino, ʒ ss.–℥ j.

Since treating the following cases, I have used with the atomizer, instead of No. II. formula, the following formula, and am well pleased with it:

℞. Listerine..... ʒ vj.
Glycerine..... ʒ iij.
Aquæ rosæ.....q. s. ft. ℥ iv.

M. et Sig.—Use with the hand atomizer instead of No. II.

I adopted this plan of treatment in the very spirit and letter of the law; for, as Dr. Billington has so forcibly made known in his discussion on the treatment of diphtheria, it is in the little details in the care of the diphtheritic patient that success is obtained, and the neglect of these has caused many to abandon this plan for more heroic measures, or to content themselves with a constitutional remedy alone, and thus have they swelled the death-rate. Some, again, have carried out this plan of treatment in every particular, and seen, as I have seen, the disease leap from the tonsil to the pharynx, mount the pillars of the fauces, rage over the whole surface of the palate, rush into the posterior nares and Eustachian tubes to the middle ear, and, like a lurid demon, curl down into the larynx, as if mocking human opposition.

The nostrils are plugged up with diphtheritic exudation; this is washed away, and epistaxis follows. This is controlled. The disease goes down the trachea into the bronchi; rapidly, but secretly, the patient's system is being overwhelmed by the absorption of diphtheritic poison, unknown to the physician, threatening paralysis or cardiac thrombosis.

The little patient gets up from its cot, walks across the floor, and is seated in a chair to have its nose and throat washed out. You turn away for a moment to fill your syringe, then seat yourself before the child. A sad surprise seizes you—the little head drops on the shoulder, the face becomes purple, the eyes glassy. You lay the child quickly and gently on its cot, and hastily take out your hypodermic syringe—too late, the little sufferer is dead.

Another and another, and yet another case with like result, and the treatment is abandoned. But this is not, to my mind, a conclusive test either for or against any plan of treatment, because each case may have been of the most malignant type, or of that type necessarily fatal under any plan of treatment.

Again, you may have cases of the more simple type where any plan of treatment, or no treatment at all, would have been followed by recovery. I consider it necessary, therefore, to have at least twenty or more cases to treat, and the given plan to be strictly followed in each case, to fairly decide as to the efficacy of any plan of treatment.

Without entering upon a discussion of the etiology or pathology of the disease, I will here observe that I had been taught, and fully believed, that diphtheria was primarily a constitutional disease, having a local expression in the throat and glands of the neck. My own experience, however, in the treatment of cases in common with Dr. Billington, and subsequently in the treatment of many other cases while Visiting Physician to Demilt Dispensary, has had the effect of entirely changing my old theories. I became convinced that diphtheria was a local disease with a constitutional expression, and all subsequent observations have confirmed and strengthened this conviction.

During the spring and summer of 1881 and 1885, while I was Visiting Physician for the south district of Demilt Dispensary, I was called to see the following thirty cases of diphtheria, each one of which was seen by Dr. Billington and others, experienced in the treatment of diphtheria, who confirmed my diagnosis.

I will here beg your indulgence for a few minutes while I read in detail the history of three or four cases, which I personally attended, and which I believe justify my change of views on this subject:

Case 4.—I was called to see S. C——, aged four, June 12, 1881. Three or four weeks previous I had treated patient for scarlet fever. The condition of this patient was very bad. When first seen the diphtheritic exudation covered both tonsils, palate, pharynx, and extended into the nostrils. Temperature, 103½, axillary; respiration, 30; pulse, 140; fetid breath. Vomiting any liquid or food taken into the stomach. Albumen in the urine. Treatment as given above, with a diet of milk and lime-water to be given immediately after syringing out the nose and throat.

June 13th, P.M.—Patient did not vomit after the first thorough syringing of the nose and throat, and had swallowed nearly a quart of milk during the twenty-four hours. Temperature, 101; respiration, 22; pulse, 120. From this on the patient did well.

ne 18th.—Examination of patient showed no diphtic exudation either in the throat or nostrils; but the was scanty and dark-colored, containing a large tity of albumen.

Cases 5 and 6.—Brother and sister of Case 4, aged eight years, and eighteen months respectively; took the disease June 15th. Both cases were of the tonsillar and naso-pharyngeal type. The disease in both commenced

Thirty Cases of Diphtheria.

Name.	Age.	Date of attack.	Date when first seen.	Character of the disease.	Treatment.	Duration of disease.	Result and remarks.
Kate T——.	5 years.	1881. May 2.	1881. May 3.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	6 days.	Passed out of my hands at my second visit, and died on the sixth day of the disease.
Mary D——.	8 years.	May 21.	May 22.	Tonsillar and pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	11 days.	Recovered.
Joseph K——.	8 years.	June 1.	June 1.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	8 days.	Recovered.
Samuel C——.	4 years.	June 10.	June 12.	Tonsillar, naso-pharyngeal, and laryngo-tracheal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	9 days.	Patient died on the ninth day from œdema of the lungs.
James C——.	1¾ years.	June 15.	June 15.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Kate C——.	8 years.	June 15.	June 15.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	8 days.	Recovered.
James McM——.	6 years.	June 13.	June 15.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	6 days.	Recovered.
Bernard K——.	4 years.	June 17.	June 18.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	4 days.	Died suddenly on the fourth day of the disease.
James S——.	5 years.	June 25.	June 26.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Rose R——.	4 years.	June 28.	June 29.	Tonsillar and pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	8 days.	Recovered.
Maggie O'B——.	15 years.	June 28.	June 30.	Tonsillar and pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	8 days.	Recovered.
Frances McG——.	9 years.	July 7.	July 10.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	14 days.	Recovered.
Anna B——.	3 years.	July 14.	July 16.	Labial, naso-pharyngeal, and laryngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Mary T——.	9 years.	July 23.	July 25.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	13 days.	Recovered.
Edward C——.	5 years.	July 26.	July 26.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	11 days.	Recovered.
Michael D——.	6 years.	July 28.	July 29.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Maggie S——.	2 years.	August 6.	August 8.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	12 days.	Recovered.
Daniel S——.	5 years.	August 9.	August 9.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Ellen S——.	7 years.	September 22.	September 23.	Tonsillar and naso-laryngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	8 days.	Recovered.
Anna H——.	4 years.	September 22.	September 23.	Labial, tongue, naso-pharyngeal, and laryngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	11 days.	Recovered.
Marian B——.	10 months.	October 3.	October 4.	Naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	7 days.	Recovered.
Bridget F——.	5 years.	October 4.	October 5.	Tonsillar and pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	6 days.	Recovered.
John McA——.	3 years.	November 2.	November 3.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	9 days.	Recovered.
John S——.	3 years.	November 5.	November 7.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	7 days.	Recovered.
Peter M——.	7 years.	November 15.	November 18.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Charles A——.	3 years.	December 9.	December 11.	Naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	7 days.	Recovered.
Michael D——.	4 years.	December 12.	December 14.	Naso-pharyngeal and laryngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Ernest H——.	6 years.	1885. June 5.	1885. June 7.	Laryngo-tracheal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	10 days.	Recovered.
Francis H——.	3 years.	June 12.	June 13.	Laryngeal, tracheal, and bronchial.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	5 days.	Died.
Samuel H——.	8 months.	June 15.	June 16.	Tonsillar and naso-pharyngeal.	Salt water and borax, with syringe-atomizer; iron and potass. chlorate, as per formula given above.	7 days.	Died.

ıne 19th.—Patient was allowed to leave his bed and out into the yard.

ıne 21st.—I was called in the night to see the little ent, and found him in the last agonies of death with :ma of the lungs.

on the tonsils, spread to the palate and pharynx, and into the nostrils. The same treatment was carried out as in Case 4. In neither case did the temperature rise above 101½° F. Both made a good recovery, one in eight and the other in ten days.

Case 8.—B. K——, aged three. Was called to see this case on the second day after the attack. Disease tonsillar and naso-pharyngeal. Breath, fetid; temperature, 103°; respiration, 30; pulse, 140. This little patient was very intractable, so that I was never able to satisfactorily syringe out his nose and throat. He fought me to the last, and died suddenly on the fourth day of my attendance on him.

Case 12.—Was called July 9th to see F. McG——, aged nine. Patient first seen by me on the third day following the attack. Examination showed that the disease had spread from the tonsils to the palate, pharynx, and into the Eustachian tubes as well as the nostrils. Complete nasal stenosis. Palate and uvula very much swollen. Breathing rapid, stertorous, and breath extremely offensive. Temperature, 104°. Patient complained of severe pain in both ears. This patient was very refractory. It required the united efforts of my assistant, nurse, and the father of the patient to hold him in a chair while I syringed out his throat and nostrils. The relief to the patient was so great that two hours afterward the nurse had no trouble in using the syringe and atomizer alone.

July 11th.—Patient much improved. Temperature, 100°; respiration, 22; pulse, 98. Exudative material almost entirely cleared from the throat. Palate ulcerated through on both sides of the uvula, so that I was able to pass my lead-pencil through the holes. Both drum-heads ulcerated, and ears discharging freely.

July 12th.—After syringing out the nostrils quite a severe epistaxis followed the operation, but was soon controlled by the use of ice. From this on the patient did well, and convalescence was fully established on the fourteenth day of the disease.

Case 13.—Was called to see A. B——, aged two and one-half, July 16th. Examination of the throat and nostrils showed no signs of diphtheria, but on examining the inside of the lips I found several spots of diphtheritic exudation. The disease spread to the tongue, tonsils, pharynx, nostrils, and larynx. The same treatment as in the other cases, with recovery on the tenth day of the disease.

Case 21.—Was called to see M. B——, aged ten months, October 4th. Patient unable to breathe through the nostrils. Nursed with difficulty and had frequent attacks of vomiting. Examination of the throat showed no signs of diphtheria. Temperature, 103½°; respiration, 38; pulsation, 140. Examination of the lungs gave negative results. I suspected nasal diphtheria and prescribed the usual treatment. In syringing out the nostrils the solution would pass into the throat.

October 5th.—Patient in much the same condition. Examination of the throat showed a few patches of diphtheritic membrane upon the pharynx, none to be seen on either tonsil. While syringing out the nostrils, suddenly one nostril became completely blocked up and a small portion of the diphtheritic membrane protruded from this nostril, which required considerable force with a pair of forceps to extract it. When spread out on a cloth this piece of membrane measured one inch in diameter and was about one-fourth of an inch in thickness and gave a perfect cast of the posterior nares and soft palate.

October 6th.—Patient much improved; nursing without difficulty; no vomiting; breathing about normal, and temperature 99½° F. From this time on patient did well, and convalescence was fully established on the seventh day of the disease.

In referring to Cases 28, 29, and 30, I wish to bring out point in tracheotomy for membranous croup, so called, ut which my experience has taught me to call diphtheitic laryngo-trachitis. In the above cases, the occuring as they did within two weeks of each other, and in e same family, leaves no doubt on my mind as to the ture of the disease.

In Case 28, on the second day of the disease, when the breathing became very labored, pulse rapid, temperature 103°, and the features showing a want of proper aëration of the blood, I suggested tracheotomy to the parents. They would not permit the operation. The same treatment as in the preceding cases was followed. To my surprise the patient made a good recovery in ten days, except a slight hoarseness, which lasted for two or three weeks.

Case 29 was attacked, three or four days following Case 28, with precisely the same symptoms, and died on the fourth day of the disease without tracheotomy. The treatment was the same as in the former case. Hence, had I done tracheotomy in Case 28, and he had lived, as he did without it, and then have omitted to do the operation in Case 29, I would doubtless have been wedded to the operation, which I am not.

One week following the death of Case 29, Case 30 was attacked with the disease. Its first appearance was seen on the tonsils; it rapidly spread to the palate, pharynx, and nostrils, made its appearance on the genitals, and the little patient succumbed on the seventh day of the disease.

I think there can be no doubt as to the nature of the disease in these three cases; yet Cases 28 and 29 were such as are regarded by dualists as typical of true croup rather than diphtheria.

It is proper that I should say that Dr. Billington claims nothing specific or new in the remedies, nor does my own experience lead me to believe that there is a specific for the cure of diphtheria known to the profession. However, Dr. Billington, believing the disease to result fatally if allowed to develop into blood-poisoning, and that this condition is superinduced by the absorption of decomposed gangrenous sloughs, adopted the plan of washing away the gangrenous discharge, cleansing the parts antiseptically, thoroughly, and often. The efficacy of this treatment as a preventive of blood-poisoning is most conclusively attested by the hundreds of cases it has saved, and these, too, under the most unfavorable conditions, surrounded by filth and foul air in the wretched houses of the poor of New York. In the treatment of a small number of cases there can be no just estimate formed of the value of any method of treatment. It not infrequently occurs that the first few cases coming under our observation are of a desperate character, or it may be that we are not called in until the disease has reached a stage when the system is almost overwhelmed with blood-poisoning. In these cases and at such times any plan of treatment may fail, and then we are too apt to abandon the course pursued as unavailing, or no better, at least, than other plans which have been advanced and resulted in failure. We may then solace ourselves with a few severe reflections on the fact that the highest authorities have always pronounced diphtheria a most fatal disease; that the County and State Medical Societies have reiterated this verdict, and that statistics have fixed its death-rate at no less than fifty per cent.

Confronted by this alarming rate of fatality, I determined at the outset of my contact with diphtheria to scrupulously avoid vacillating or experimenting with different forms of treating the disease, but firmly adhered to the one form in which I had fullest confidence. I considered that the results from at least twenty or thirty cases treated were necessary before an intelligent judgment could be reached—before the plan adopted should be pronounced a failure. Therefore, when I assumed the duties of Visiting Physician of the south district of Demilt Dispensary, I decided to observe the very spirit and letter of Dr. Billington's plan of treatment. This means something more than an occasional spray of carbolic acid and lime-water, with a semi-occasional injection into the nostrils and throat of a spoonful of the salt-water solution. It means more than this, if it means anything. It means that the parts affected must be thoroughly cleansed with the syringe, using in some cases a pint of the salt-water solution for each sitting, and at in-

tervals not exceeding two hours, and using the atomizer every half hour. Herein lies the success of this plan of treatment, as without a judicious thoroughness in applying the syringe the throat becomes filled with the gangrenous discharge, and the nasal passage completely blockaded; so that respiration is carried on through the mouth. In this suffering condition I have frequently found the patient on my first visit; a condition pre-eminently favorable for absorbing the poisonous discharge. Then allow no time to be lost in preventing or stopping such absorption, or the gravest consequences will ensue. I use a common hard-rubber ear syringe, with the tip of the nozzle cut off for cleansing the throat and nostrils.

With the inexperienced a mistaken diagnosis is frequently made in dealing with diseases of this class. A simple catarrhal pharyngitis is sometimes termed diphtheria, and again, follicular tonsillitis is mistaken for the same disease. When the muco-purulent discharge is thrown out from the follicles, besmearing the tonsils, and even the pillars of the fauces, drying and gluing itself to the parts, it presents to the eye of the casual observer the appearance of a marked case of diphtheria, as it resembles the plastic effusion thrown out by the diphtheritic process, or in the case of follicular tonsillitis, where the inflammatory process within the follicles has been so destructive that we find two or more follicles coalesced and surrounded by the débris of the broken-down walls, the appearance is again much like that of the destructive process of diphtheria; but by judicious syringing of the tonsil you will be able to wash away the exudative material and broken-down tissue and bring into view each inflamed follicle; and this, as in all other inflammatory products of the throat, not diphtheritic, we are able to remove by the aid of the syringe. However, I think in two of my cases the disease started first as a follicular tonsillitis, and afterward, being in a locality where diphtheria existed, they became cases of diphtheria.

Before closing, permit me to state that in not a single case did I deem it necessary, neither did I give one drop of alcoholic or other so-called stimulants, nor one grain of quinine or other so-called antipyretics. In each and every case I adhered to a strictly milk diet until convalescence was well established.

CLAVICLE SPLINT.

By A. P. MITTEN, M.D.,

COLUMBIA CITY, IND.

Dr. Smith's apparatus for fracture of the clavicle, as shown in The Medical Record for December 19, 1885, will evidently accomplish but *two* of the three essential requirements in that fracture. It will elevate the shoulder and carry it outward, but will *not* carry it backward; the latter direction being most essential in a vast majority of the cases. As must inevitably be the case where the arm is used as a lever and the chest as a fulcrum, the position is irksome and uncomfortable; unbearable, in fact, in some cases. The fact that from the time of Hippocrates to the present time eminent surgeons have advised placeing the patient in bed, with little or no dressing, is but a confession of inability to apply satisfactory apparatus to this injury.

The accompanying cuts will show the apparatus I have used with entire satisfaction. I will briefly describe it, and mention what I claim as points of superiority, and let its application, by those who may consider it worthy a trial, be the test of its merits.

1, in Fig. 1, a board half an inch thick, eight to ten inches wide, heavily padded on one side, and eighteen inches long. 2, six inches wide, from sixteen to eighteen (or according to size of patient) inches long, half an inch thick, this securely fastened to upright splint, as shown; a notch in the upper and lower side near the ends; two belts made of wide surcingle material tacked upon the upright, as shown in Fig. 1, and buckled in front, as shown in Fig. 2; two pieces of unbleached muslin about four inches wide and one yard long, folded and sewed, and stuffed with bran for a distance of about six inches at the middle; these passed over each shoulder, 3, 3, in Fig. 2, and securely tied over the end of the cross splint. The shoulders are now carried upward, outward, and

Fig. 1.

backward. The clothing can be put on and the arm supported in a sling, and, if need be, secured to the side. The roll over the shoulder should be flattened from before backward, and to prevent slipping in either direction, inward or outward, the under surface should have stitched to it a piece of rubber adhesive plaster about two inches wide and six inches long, the adhesive surface of course being directed to the shoulder. If the action of the sterno-cleido-mastoid muscle should elevate the inner extremity of the bone, a compress can be applied

Fig. 2.

by means of a strap of adhesive plaster. 1. It does away with the axillary pad. 2. It fixes the scapula and the entire shoulder-joint. 3. It avoids fixing the elbow-joint in a constrained and painful position. 4. The patient can put on and remove his clothing without disturbing the dressing. 5. The patient can attend to his ordinary daily

wants, as slight movements of the arm and hand can be made without injury, as such motions stop at the head of the humerus. In conclusion, the injury being a simple one and unattended by danger, and so considered by the laity, it becomes all the more necessary to make the apparatus used in its treatment as simple and as comfortable as is consistent with the accomplishment of its purpose.

Clinical Department.

CONVULSIONS IN AN INFANT CURED BY MORPHINE.

Dr. H. Plummer, of Harrodsburg, Ky., reports the case of an infant, twenty-two months old, who was seized, after a short period of malaise, with convulsions. She was seen after the second convulsion, and did not then appear to be very ill, but was fretful; the temperature was 102°, and there was some little cough, but there were no signs of pneumonic trouble. Bromide of potassium in five-grain doses was given every hour, but the convulsions increased in severity and frequency. The bowels had been moved by calomel and castor-oil. In the afternoon of the second day the child was in the following condition: The tongue was protruded between the teeth, swollen, and constantly in motion; the forearms were flexed and rigid, the thumbs being firmly drawn into the palms, and the lower extremities were likewise rigid; the child was now unable to swallow, and the pupils were widely dilated. The convulsive attacks recurred at such short intervals that they seemed to be continuous. Other remedies having proved ineffectual, Dr. Plummer determined to employ morphine, and accordingly gave one-sixth grain hypodermically. In a few minutes the little patient fell into a sleep, in which she remained, awaking only to drink, for twenty hours, the pupils became of nearly the normal size, and the muscular system became relaxed. From this time she continued to improve, although she seemed nervous and fretful for a time, and the convulsions did not return.

CLINICAL FEATURES OF TWO CASES OF PSEUDO-HYPERTROPHIC SPINAL PARALYSIS.

Dr. C. Eugene Riggs, of St. Paul, Minn., reports two cases of this affection, having an interesting family history. The patients were brothers. The first boy, aged six, had a peculiar waddling gait when walking, and marked lordosis of the spine, with consequent protrusion of the abdomen. Upon falling to the floor he was unable to raise himself to the erect posture, and attempts to do so caused pain in the back. He could not talk plainly, and the tongue remained more or less protruded from the mouth. The patient complained of pain through the eyes and temporal region at times, and also of some pain in the calves of the legs. The circulation seemed sluggish in this portion of the body, and the skin presented a mottled appearance, and remained white for some time after pressure had been made. The hypertrophy of the muscles was much more marked upon the left than the right side, the only exception to this being in t e legs, which measured the same, although nine months a o the left was half an inch smaller than the right. ' he calf was the only portion of the right limb hypertro-] hied. Upon the left side the muscles on the posterior] ortion of the thigh and the glutei muscles were hyper- t ophied. The muscles of the back, especially those on t e left side, were undergoing apparent hypertrophy, as ere also the left deltoid and the tissues of the cheek on t e same side. The left forearm measured half an inch l ore than the right.

The following measurements show the degree of hyper- l phy in the second case, a boy, aged four: Upon the right side the arm, forearm, thigh, and calf measured, respectively, 3½, 5½, 11, and 6 inches in circumference, while upon the left side the figures were 6, 6, 11½, and 6.

In this case the hypertrophy was on the anterior portion of thigh. Patient was able to walk, but with the characteristic gait. After falling, he was able to resume the erect posture by raising himself first upon his feet and hands, and then, approximating the two extremities, climbing up his legs by his hands. During this effort he complained of some pain in the back. The mother of these children states that neither of them walked until he was two years of age, and never crept, but only "hitched along from one object to another."

The following interesting family history was given by the grandmother of the patients, an intelligent old lady, eighty-two years of age, seemingly herself suffering from a partial paralysis of the flexor muscles of the thigh. Her grandmother was the mother of ten children, nine daughters and one son. None of this family manifested any symptoms of this disease, as far as known, though the son entered the army at the age of twenty and all trace of him was lost. Several of the daughters reached adult age, married, and bore children. The males were all victims of this disease. Mrs. S—— (the lady giving the history), of the next generation, had ten sisters and one brother; the latter began to show symptoms of the disease at the age of ten years, and died in his twentieth year. As the disease progressed, his thighs became flexed upon the abdomen, and the legs upon the thighs. For a week prior to death there was no fecal evacuation, but a continual hemorrhage from the bowels. Two hours before death the patient suffered extreme pain throughout the body; this continued about an hour, and during the last hour there was no pain. The intellectual faculties were retained to the last. Mrs. S—— is the mother of eleven children, four daughters and seven sons. Two of the former died young, a third was the mother of one child, a son, who died of this disease. The mother died of cancer. The other daughter was the mother of the subjects of this report. Five of Mrs. S——'s sons died of the disease. One of them, who lived a comparatively longer time than the others, had the thighs firmly flexed upon the abdomen, and the legs upon the thighs, and the spine was curved to such an extent that the back of the head was within eight inches of the buttocks. The other two sons, now between thirty and forty years of age, are free from the disease. This history covers a period of more than one hundred years, and shows the heredity of the disease and its tendency to follow the males from one generation to another. In the two cases reported there was a condition and a symptom which Dr. Riggs has not seen mentioned in works upon this disease, namely, the hemi-hypertrophy of the left side, and the pain in the back. The former was well marked in both cases, as shown by the measurements, and the latter was one of the pronounced symptoms complained of by the patients.

ACCIDENT TO A PREGNANT WOMAN, RESULTING IN FRACTURE OF THE SKULL OF THE FŒTUS—RECOVERY OF THE MOTHER.

The following case is reported by Dr. George Lunney, of Malden, Mass.: A lady, aged twenty-three, who was within about ten days of the completion of gestation, while opening a door slipped and struck the edge of the door with great violence against her side in the right lumbar region. She was seized with a feeling of faintness and nausea, which continued for some hours, and then recurred at intervals for three days. Prior to the fall the child had given frequent evidence of life, but since that time it had been motionless, and the abdomen, which had hitherto been "warm," now felt, as the patient expressed it, "cold and unnatural." Examination showed a long, narrow line of contusion, extending from the lower part of the right lumbar region to the upper part of the umbilical region. Eight days after the accident labor be-

gan. After the spontaneous rupture of the membranes an examination was made, and revealed the presentation at the os of an angular, irregular mass, which a little later was recognized as a comminuted, disarticulated skull within an unbroken scalp. Labor progressed very slowly, and, as it was impossible to apply the forceps to the presenting part, a dose of ergot and whiskey was given, and delivery accomplished by pulling on the scalp with the hand, the vagina being at the same time protected from injury by the sharp angles of bone.

On examination of child a complete fracture of the left half of the frontal bone was found, extending from the supra-orbital foramen in front, passing backward and slightly inward—nearly equidistant from frontal suture and temporal ridge—to the coronal suture.

The left parietal bone was also broken, the fracture extending from a little to the left of the anterior-superior angle in front, passing backward over the parietal prominence and terminating a little to the left of the posterior-superior angle. Many of the other bones of the cranium were fractured or disarticulated. The woman made an excellent recovery without a single untoward symptom.

GUNSHOT WOUND OF THE HEART.

Dr. S. V. Hoopman, of Baltimore, writes: "On Christmas afternoon a man was shot in the chest. The ball was a No. 38. Death occurred nineteen and three-quarter hours after the shooting; the post-mortem fifteen hours after death. The bullet entered the chest to the left of the sternum, perforating the fifth rib. It then passed through the pericardium, left ventricle, and lower lobe of the left lung, it then passed out of the chest, fracturing the eleventh rib, and was found in the muscles of the back. *One* ounce of blood was found in the pericardium, and *fourteen* ounces in the *left pleura*."

Progress of Medical Science.

The Trigeminal Cough.—This peculiar term, introduced by Schadewald, signifies the cough which in perfectly normal conditions of the larynx and lungs persists with the greatest constancy day and night, being caused by the slightest temperature changes and in presence of penetrating odors. Sneezing and snuffling are the constant attendants of this trigeminal cough, which can even be artificially produced by gently tickling the nares. The patient will at once be forced to cough violently, and will recognize the cough as identical to the one which usually torments him. The frequently occurring cases of persistent coughing, without any traceable implication of larynx and lungs, which can be readily provoked by touching the termination of the trigeminus, are all to be regarded as pertaining to the trigeminal cough. The paroxysm of the trigeminal cough has a striking resemblance to the purely nervous asthmatic attack, beginning and ending with a paroxysmal cough. Still, in the asthmatic paroxysm we find a different acme as to duration and mode of respiration. Wille regards the purely nervous asthma as a simple reflex neurosis of the trigeminus in its nasal branches, and, according to his observations, we find the nervous asthma always accompanied by a trigeminal cough. Hence many cases of asthma can be, and have been, cured by cauterization of the nasal mucous membrane. The trigeminal cough can be divided into a nasal, a pharyngeal, and an auricular one. The cough which sets in if the external auditory meatus is being cleansed or irritated, is by no means a vagus cough, as has been assumed before; for the anterior portion of the meatus is not supplied by the vagus, but by the auriculo-temporal branch of the infra-maxillaris, hence by a subdivision of the trigeminus. This cough, therefore, is to be regarded as a typical trigeminal cough. The nasal form of trigeminal cough, however, is that most frequently met with. In all cases in which we find an obstinate cough, and yet are unable to discover any organic alterations, a trigeminal neurosis should be thought of. In the trigeminal cough, as in the asthmatic paroxysm, the neurotic affection is the principal fact, and not, as some authors have asserted, some possibly visible anatomical alterations of the mucous membrane, such as tumefaction of polypi, etc. Not only the direct cauterization of the nares, but even the simple sounding, executed sufficiently roughly to provoke epistaxis, suffices to produce an improvement of the neurosis. The therapeutic success of iodide of potassium in nervous asthma, which is actually but an intense nasal trigeminal neurosis, is to be explained by the hypersecretion of the part excited by the drug, which assists in the elimination of foreign irritations and bodies from the affected tissues. As the best mode of treatment of trigeminal neuroses the galvanization of the nasal nerves with a weak induction current has been warmly recommended. In lighter cases a resolving treatment, with the nasal steam-douche and the internal administration of iodide of potassium, will be sufficient. The sneezing and snuffling produced by this drug is the very thing desired. Wille formulates his general conclusions on this subject as follows: 1. The trigeminal cough is by far the most frequent type of all existing coughs. 2. It is a nasal reflex neurosis, and may be regarded as the pathological inversion of the sneezing act. 3. This neurosis may exist with or without anatomical alterations of the nasal cavities without being dependent upon them. 4. The highest expression of this neurosis is the nervous asthma. 5. This reflex can be provoked by all branches of the spheno-palatine ganglion, and by the ethmoidal nerve. 6. Every local treatment in the domain of the trigeminus, which alters its reflex functions, may lead to an improvement or even a cure of the affection.—*The Therapeutic Gazette.*

Hysteria in Children.—The following are the conclusions of Dr. Peugniez, in a recent thesis on this subject (*Archives Générales de Médecine*, February, 1886): 1. Hysteria is not rare in children. 2. Heredity is the principal predisposing cause of the affection. 3. Disturbance of the moral faculties is one of the first symptoms observed. 4. The general symptoms are nearly the same in children as in adults, whatever be the sex. 5. The results of treatment are usually more satisfactory in the child than in the adult. 6. The earlier the diagnosis is made and treatment instituted, the less grave is the prognosis. 7. Isolation is the most effective method of treatment of infantile hysteria. 8. The disease is sometimes epidemic in character.

The Treatment of Congenital Syphilis by the Older and Newer Methods.—Professor Monti, of Vienna, has published an elaborate paper on this subject. The following abstract (*London Medical Record*, January 15, 1886) embodies the chief points made by the author. Of treatment by inunction, the oldest is that in which blue ointment is employed. It is still largely used, but the objection to it is that it oxidizes too readily in this form, and is then apt to produce eczema. Oleate of mercury is extensively used instead of the blue ointment, and mercurial plasters have been substituted by some, while Charcot recommends mercurial soap. All those compounds are, however, more or less unsuited to the tender skin of infants, the least objectionable being the oleate of mercury. Dr. Monti has, however, had no personal experience of the soap. Moreover, inunction involves considerable risk of the system rapidly absorbing an excessive quantity of the drug, and in the case of very young infants this leads to acute anæmia. He has also come to the conclusion that the sudden death, which is not an uncommon incident in hereditary syphilis, occurs with far greater frequency where this has been treated by inunction. For these reasons he has for some years ceased to use it in the case

of children under one year. The next treatment under review is that by calomel. This also has a tendency to produce anæmia, and should, therefore, be given as a powder in combination with lactate of iron. This should be discontinued when the first symptoms have disappeared, and saccharated iodide of iron substituted until the spleen is no longer felt or the skin has resumed its normal color; but should the disease reappear in the skin, mucous membrane, or bones, calomel must again be resorted to. In some rare cases, such as those where there is great irritability of the intestinal tract, a subcutaneous injection of a freshly prepared mixture of calomel suspended in mucilage may be administered. The treatment by corrosive sublimate gives very satisfactory results, provided it be not too long continued, in which case symptoms of gastric irritation will supervene. This drug is also administered in the form of a bath, which should contain about seven grains; but in the writer's experience their effect upon the disease is very slow, and should, therefore, be accompanied by calomel internally, and in that way they appear to hasten the cure. The best mode of giving corrosive sublimate is by subcutaneous injection. The solution should consist of perchloride of mercury, gr. jss.; chlorate of soda, gr. vj.; and water, 150 grains, and of this one-half to one syringeful should be used every day, or every other day, until the symptoms disappear, to be renewed upon their return. The punctures are best made upon the abdomen or chest, and must not be too close together. The injection is in general well borne, and according to Dr. Monti's experience never produces mercurialism and causes very little loss of flesh. It cannot be denied, however, that infants do not bear these injections so well as adults; even with the greatest care it is not uncommon to find induration of the cellular tissue and abscesses at the seats of puncture. It is also not suitable for out-patients, because the mothers decline to bring the children after the first few times. Notwithstanding that the symptoms subside more rapidly under this treatment than under any other, the author has of late confined its use to cases that would not bear mercury internally. Albuminate of mercury, as recommended by Bamberger, is preferable for hypodermic use to corrosive sublimate, provided the solution be clear, but it is excessively unstable, and, if used in a cloudy state, produces irritation and abscesses. Much the same objection applies to mercury-peptone, though it is rather more stable. Formamide of mercury (Liebreich) is unsuited to children. Protiodide of mercury produces excellent results, especially when combined in a powder with lactate of iron, and perhaps no other remedy acts so promptly upon syphilitic affections of the bones. Unfortunately it produces diarrhœa and colic, and the addition of Dover's powder to the above compound soon ceases to have any effect. Consequently Dr. Monti only gives it in cases where bone-affections exist from the beginning. Black oxide of mercury, as recommended by Henoch, was found to produce vomiting, and was therefore soon given up. The author has had only a limited experience of hydrargyrum tannicum oxydulatum (Ludwig), but is favorably impressed by it, more especially because it does not appear to affect the digestive organs. It is now a recognized fact that hereditary syphilis can be cured by preparations of iodine as well as, though more slowly than, by mercury. The author is very favorably impressed with the saccharated iodide of iron. He says that it is well borne by children of any age, improves their nutrition, and never produces iodism; but it is much slower in its action than mercury, and is therefore best suited for very chronic cases. It should be given as a powder, for if the syrup be used it is apt to produce diarrhœa. Three grains may be divided into ten powders, and a new-born child may have two or three daily, dissolved in milk.

Broncho-pneumonia in Cholera.—M. Dubreuilh writes ("Thèse de Paris," 1885), that broncho-pneumonia of insidious and rapidly progressive course not infrequently occurs during the period of reaction of cholera. It may be latent and only discoverable through a small number of symptoms, and even then only on the eve or the day itself of death. The most frequently observed symptoms are an acceleration of respiration and pulse, rusty sputa, pain in the side, and especially the physical signs, subcrepitant râles, rarely a blowing sound, and dulness on percussion. Notwithstanding the rapid evolution of the disease, the lesions are very extensive. Broncho-pneumonia may be the actual cause of death, or it may be only an accessory in leading to a fatal issue. Recovery may take place, and when it does occur, the return to health is usually very rapid.—*Archives Générales de Médecine*, February, 1886.

A Successful Ovariotomy in the Seventh Month of Pregnancy.—Dr. N. N. Suslin reports the following case in the *Journal of the Kazan Medical Society* (Russian), December 31, 1885. A peasant woman, nineteen years of age, one year married, entered the clinic of Professor Levshin on account of an abdominal swelling which she had noticed for the past three years. She commenced to menstruate when sixteen years old, and had always been regular up to seven months before admission. At that time the abdominal enlargement began to increase very rapidly, and was now so excessive that when lying on her back the patient was unable to breathe, and she had for two months been forced to sleep reclining in a chair. The abdomen at the level of the umbilicus measured fifty-four and one-half inches in circumference. Two tumors could be felt, separated by a distinct depression. The mammary glands were enlarged, the nipples pigmented, and on pressure milk could be expressed. There were also other signs establishing beyond doubt the existence of pregnancy complicating an ovarian cyst. On the day after admission ovariotomy was performed, an incision being made in the linea alba, extending for a distance of eight inches between the umbilicus and pubis. The anterior surface of the tumor was found adherent to the parietal layer of the peritoneum, but the adhesions were not very firm and could easily be ruptured by the hand. The cyst, which was attached by a short pedicle to the right side, was drawn out and evacuated. The uterus lay posteriorly and on the left side, and was as large as it would normally be at full term. The pedicle was ligated and left within the peritoneal cavity, and the wound was dressed with iodoform. The dressing was removed on the tenth day, and the wound was found to have healed by first intention. The patient made a good recovery, and her pregnancy went on without disturbance to full term, when she gave birth to a healthy child. Nine days later she was discharged cured.

Primary Endocarditis in Soldiers.—All authorities agree that primary endocarditis is a very rare affection. The disease not unfrequently develops after pneumonia or pleurisy, in severe fevers, and in acute articular rheumatism, but it is very seldom seen to arise independently of these conditions from external causes. M. Fournier states, however, in an article in the *Gazette des Hôpitaux* of January 30, 1886, that he has observed it several times in soldiers, and believes that it is not seldom caused by chilling of the body during a halt after a long march or fatiguing evolutions. He relates a typical case taken from those which have come under his observation, and arrives at the following conclusions as a result of his studies in this direction: 1. Primary endocarditis, a very rare disease in the ordinary conditions of life, is much less infrequent in soldiers. 2. It is commonly developed in them through the influence of cold or fatigue. 3. Energetic treatment should be instituted at once, in order to prevent the deposit of fibrine upon the valves, which may lead in time to serious heart trouble. 4. The best mode of treatment consists in the application of wet cups over the region of the heart, followed by a blister. This treatment is usually followed by rapid amelioration.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, March 27, 1886.

THE INDICATIONS FOR EXCISION IN HIP DISEASE.

THE question as to how frequently the operation for excision of the hip should be performed when the joint is diseased is still an unsettled one. The application of antiseptic surgery, which has reduced the mortality from the operation itself, has in particular rendered a fresh study of the matter advisable. In the *Annals of Surgery* for January, 1886, Dr. Leroy M. Yale has reviewed the subject in a thorough manner, and has collected statistics which enable one to reach certain tolerably positive conclusions.

There has been no little difference of opinion among surgeons as to whether any operative interference is advisable, unless the patient has necrosed bone or is plainly suffering from extensive and severe disease of the femur or os innominatum. The tendency perhaps has been to operate quite often in suppurative coxitis.

The ground taken by those advocating excision is that it promotes early healing of the disease, lessens mortality, and gives a better limb functionally.

The general mortality from hip disease, judged by the reports of the New York Orthopædic Hospital and of the Hospital for Ruptured and Crippled, is not high—ranging from five to twelve per cent. of the cases.

The mortality from suppurative coxitis when no operation is done varies extremely, as shown by the following table: Hueter, 50 per cent.; Cazin (80 cases), 12½ per cent.; Taylor (private practice, 24 cases), 8⅓ per cent.; Ollier, the greater part recover; "London Clinical Society Report" (587 cases), 33⅓ per cent.; Caumont (19 cases), 63.1 per cent.

As the question of excision only arises after suppuration takes place, the statistics showing the mortality when this is done are very significant. They are as follows: Leisrink, 57.9 to 63.6 per cent.; Sayre (72 cases), 34.7 per cent.; Culbertson (418 cases), 41.62 per cent. (6.93 from operation itself); Cowell (65 cases), 10.77 per cent.; "London Clinical Society Report" (587 cases), 37.7 per cent.; Holmes (215 cases), 18.6 per cent.; Caumont (42 cases), 61.9 per cent. (11.9 from operation); Bryant (30 cases), 18 per cent.; Volkmann (48 cases), 8⅓ to 25 per cent. (antisepsis); Korff (33 cases), 48.8 per cent. (30 per cent. under antisepsis); Grosch (166 cases), 33.7 per cent. (antisepsis); Alexander, 30.55 per cent. (antisepsis).

From these figures it seems that there is not much difference, as regards mortality, whether excision is performed or not, and that the introduction of antiseptics has reduced the mortality six or seven per cent.

The tables given do not indicate the proportion of cases that are not benefited by the operation—that "relapse," or are unhealed. This is placed by Dr. Yale at about twenty per cent. Assuming, therefore, that about one-third die and one-fifth relapse, it follows that the successes in excision amount to only about fifty-three per cent. This is about the same as the percentage of cures given by Cazin in eighty cases treated expectantly, the cases being followed up for five years.

No very brilliant results, so far as cure is concerned, therefore, can be attributed to excision. As to the claim for better functional result, this has not at least a very strong basis. We are inclined to believe, from the evidence so far accumulated, that patients treated expectantly, as a rule, get a better limb. At the same time the operation of excision occasionally gives most brilliant results.

The conclusion reached by Dr. Yale is that excision is only indicated as a life-saving operation, in order to remove the dangers consequent upon long-continued suppuration.

APHRODISIAC ADVERTISEMENTS AT THE THEATRES.

THE medical press is almost alone in its fight against quackery, because, for one thing, quacks pay the daily press some seventy-five cents a line to convince them that our strictures and opposition spring merely from a spirit of selfishness and a trades unionism.

Sometimes, however, advertising quacks combine with their effrontery such manifest immorality that we can fairly venture to call the attention of the secular press and of the officers of the law to it.

A correspondent has sent us some specimen advertisements from the programme of a musical burlesque which is running under a certain kind of sensational management in this city and whose popularity is based mainly upon the almost complete denudation of the female characters.

The advertisement is for the "Turkish Aphrodæsiac Golden Pills," or "The Secret of the Harem," the advertiser, as will be seen, in his search for positive cures having neglected the minor details of spelling.

Our correspondent writes: "The place where the remedy is advertised betokens very good judgment on the part of the owners of 'The Secret of the Harem,' as one might well imagine that, after a wine dinner, an evening spent in the study of infra-umbilical female morphology at this theatre might act as a powerful synergist to the phosphorus and cantharides in the "Aphrodæsiac Golden Pills."

The worst part of this disgrace, our correspondent adds, "appears on the first page of the same programme, where ladies are requested to send their name and address to the same disreputable firm in Buffalo, when 'they will receive by return mail valuable information.' What this 'valuble information is it does not say, but probably it contains hints as to helping the 'Golden Pills' 'permit' the 'old men' to 'procreate.' It is unnecessaryto comment on the influence of such obscene stuff on the good or bad of both sexes.

A GREAT PATHOLOGICAL EXHIBITION.

At a recent meeting of the London Pathological Society, fifty cerebral tumors were exhibited by members.

The size, location, and morbid condition of the tumors was almost as varied as the number presented.

There certainly is a wide appreciation of the fact, that the study of the morbid anatomy of the brain will give us a key to many of the physiological processes of that organ. Unfortunately, the tumors in most cases spread themselves to such an extent, involving so much of the brain-substance, that it is difficult to disentangle the symptoms belonging to the various areas involved.

The *British Medical Journal* thus summarizes the one generalization which, it says, can be drawn from the London Exhibit: "A tumor may occur in any region of the brain, that the region within which symptoms permitting localization occur is very limited, and that, therefore, surgery can do nothing for a large proportion of the patients who suffer from such tumors."

Such a method of investigating morbid anatomy, whether of the brain or any other organ, is a very practical one. It arouses interest, brings the minds of a learned body like a pathological society to bear upon one subject, which insures a preparation and ability to discuss questions which one would naturally hesitate to do offhand.

POSTURE IN THE REDUCTION OF HERNIA.

It needs no argument to prove that prevention is better than cure, or that it is better to reduce a hernia before strangulation has occurred than to operate after this condition has become established. Much has been written about the best methods of taxis; but the advice is almost always given to push up the prolapsed gut, and the utility of traction in effecting reduction is seldom considered. Most writers, it is true, recommend that the effort be made to relax the abdominal walls by means of an anæsthetic, and many advise that the patient be inverted if taxis in the dorsal position have failed in its object. But posture, if it be mentioned at all, is usually referred to only incidentally and as a last resort after the attempts to push back the intestine have proved fruitless, and the prime necessity of reducing intra-abdominal pressure seems in a measure to have been overlooked.

In an article in the *Centralblatt für Chirurgie* of February 6, 1886, Dr. Karl Nikolaus notes this omission, and calls attention to a method which he claims to be at once rational and effective. Every-day experience demonstrates how unsatisfactory in many cases is taxis, as commonly employed, and that it should so often be ineffective is shown by a simple experiment. A portion of intestine about three feet in length is passed through a piece of rubber tubing two inches long. If now one end of the gut be filled with water it will be found impossible to force the fluid by means of pressure through the constriction formed by the rubber tube, but let suction be made on the empty extremity and the water will readily pass. And again, a knuckle of empty intestine can with great difficulty be pushed through a rubber tube, although it can be drawn through the same tube with ease. In like manner a prolapsed knuckle of intestine may resist every effort made to push it back through the constricting ring, but reposition will take place spontaneously when a traction force is substituted for pressure.

The necessary traction force is to be obtained by reducing intra-abdominal pressure. But this is not effected by simple relaxation of the abdominal walls, for the abdominal parietes may be made very lax by placing the patient on his back with the thighs flexed and the thorax elevated, but in this position the capacity of the abdomen may be so much diminished as even to increase the pressure. The position which the author recommends is that known as the knee-shoulder position, the patient resting upon his knees and upon the shoulder on the sound side. Or, if this is for any reason impracticable, the Sims position may be assumed, the patient lying upon the side opposite to the hernia and with his pelvis raised. The intra-abdominal pressure may be still further reduced by previously evacuating the bladder and rectum. While the patient is in this position a considerable suction force is exerted to empty the incarcerated gut of its contents, and then the intestine will often be drawn back into the abdominal cavity by a continuation of the same force combined with that of gravity.

Dr. Nikolaus has succeeded by this means alone in effecting reduction in a considerable number of cases of hernia after taxis had been tried in vain. The method would seem to deserve a more prominent place in the therapeutics of hernia than it has hitherto occupied, and it might, at least, be tried first, before resorting to prolonged taxis, which is, even in experienced hands, by no means always a perfectly safe and harmless procedure.

THE QUESTION OF LATIN.

It is not in this country alone that the opponents of a so-called classical education are active, but they are making themselves heard also in older lands and among people whom we are accustomed to regard as less practical and more wedded to tradition than ourselves. A work entitled "The Question of Latin," has recently been published by M. Raoul Franz, in which he asserts that the time spent in the study of this language is, for the great majority of educated men—physicians as well as others—simply time thrown away. It would be much better, he thinks, were students to employ the hours now devoted to Latin, in the acquisition of more practical knowledge. The arguments which the author brings forward in support of his position are familiar to all those who have given the subject any study; but though not new they are presented in such an attractive way as possibly to force conviction upon many whose opinions are as yet unformed.

It can hardly be questioned that, as Latin and Greek are now taught in school and college, they might with advantage be dropped from the curriculum. But the remedy is not to abolish the study, but to reform the system. There is no necessity of devoting six or eight years to the study of a language, even a dead language, in order to acquire a good working knowledge of it, when by the use of the modern methods a better result can be obtained by one, or at most two, years' application. While fully recognizing the advantage to a physician of a knowledge of French and German, we do not believe that the study of those tongues can be made to take the place of a groundwork in Latin. Education is a training,

and one who has had the mental discipline furnished by a proper study of Latin will find that he has acquired a facility for mastering modern tongues which another will not possess. And furthermore, he will have become possessed of habits of observation and reasoning which will be of incalculable advantage to him in the practice of medicine as well as in other pursuits.

LITERARY EVOLUTION.

We greatly err in supposing that evolution obtains merely in the animal and vegetable kingdoms. Biology, or the science of life, in the individual merges into Sociology, or the science of life among an aggregation of social units, that is, society—and the same laws that govern two kindred sciences just as truly control the development of the mental organism. From the old tribal chief, with his exhortations, we have gradually come, through manuscripts, to the age of printing. Newspapers and books have followed in due order, and if we watch the present spirit of activity in the literary world, we see that there has been a still further unfolding, particularly in our own profession. Less books, perhaps, are written by our best men, that is, books covering a wide range of topics. More is done in the line of monographs or in the presentation of papers before society gatherings.

After all, is not this but another manifestation of that tendency to specialism so prevalent among medical men? It seems to us so to be. Moreover, it happily is free from many of those features which in the specialization of medical practice have given rise to so much acrimony. Many and sometimes bitter have been the wordy wars between the general and the special practitioner of medicine. We took occasion to remark some months ago that the latter would appear just in proportion to the demand for them. They are a product of the call of the times for division of labor, and the number of true specialists will be regulated, as are all inorganic commodities, by the law of supply and demand.

We see, then, that the best thoughts of the profession are more likely to be promulgated in the form of papers than ever before. This has both encouraging and discouraging features. There is encouragement in the fact that many who would shrink from the task of writing a set treatise, will, from their garnered wisdom, enlighten us on topics concerning which they are particularly well qualified to judge. There is discouragement in the fact that the preparation of a paper seems such a slight task, comparatively, that we may be flooded with a series of contributions, shallow, indecisive, and not contributing anything to our positive knowledge.

No paper, then, should be a mere repetition of what has preceded it! If it contain the results of original investigation on any topic, it is worthy of being read. Its value varies with the experience of its writer, the carefulness of his experiments, and the logic of his deductions. It is worthy also of presentation if it contains observations on any new topic or new phase of an old topic. From all these communications the future treatises on medicine will derive useful information. We cannot, as a rule, rightly record the history of our own times. We are too much a part and parcel of it to have the unbiassed judgment of the historian. The present prolific literature on our Civil War is showing us the falsity of many of the conclusions of a score of years ago. The present discussion on many of the problems of pathology, while unsettling to our own opinions, is yet the prerequisite for the solidification of truth. Right here is the province of the carefully written paper: it feeds the discussion with facts. Our system of therapeutics, around which all other branches of medicine centre, must be constructed by the inductive method. We must reason from a part to the whole. From authentic facts we must infer the general law which governs them.

THE HAIR-ROOTS AS INDICATORS OF BODILY OR MENTAL DISEASE.

Some time ago considerable notoriety was given to a claim that changes in bodily health could be detected by an examination of the white blood-cells, or, again, by a study of the hæmatoblasts and the mode of blood-coagulation. Something much more unique and apparently fantastic has been announced by Dr. J. Pohl-Pincus, of Berlin. This investigator, in a brochure entitled "Polarized Light as a Means of Recognizing Irritable Conditions of the Nerves of the Scalp," claims that by an examination of the hair-roots by polarized light peculiar changes may be observed whenever the patient suffers from physical irritation or mental excitement.

Dr. Pohl-Pincus rushes forward with no hasty conclusions, but says that his investigations have now been going on for twenty-five years, and that his later observations continue to confirm those made earlier.

If, in healthy conditions of the body and mind, the hairs that fall out daily are examined microscopically by polarized light, the enlarged bulbous end of the root will show a white contour and a yellowish, or brownish-red, centre (Form A).

In all irritable conditions of moderate grade, all painful conditions of any organ, also in emotional disturbances of moderate grade without any apparent bodily disease, the bulbous end of the hair-root increases in length and breadth (in proportion to the intensity of the irritation), the central part appears under polarized light of a violet, blue, or bluish-green color, separated from the white contour by bands of yellow and red (Form B).

In higher grades of bodily disease or mental disturbance the bulb becomes still larger, and the bluish centre changes to green, yellow, or orange (Form C).

A few hairs of the B and C type are found in normal conditions, especially in those more advanced in life.

A professor of jurisprudence, aged forty-six, suffered from overwork and great mental anxiety. Fifty-seven fallen hairs showed: of Form A, 11; Form B, 24; Form C, 23. Two years later, when in good health and free from worry, 34 fallen hairs were classed as follows: Form A, 18; Form B, 16; Form C, 0.

A young man, aged nineteen, while studying for examination, had in 38 hairs: Form A, 16; Form B, 19; Form C, 3. Three weeks later, while at examinations: Form A, 7; Form B, 12; Form C, 17.

Thirty-one cases, showing the effects of painful disease, but more especially of depressing emotions upon the appearance of the hair-roots, are reported.

Dr. Pincus concludes that bodily disease or mental excitement causes circulatory disturbances, and in consequence a change in the normal nutrition and pigmentation of the hair. This is only in accordance with previous observation, and it appears that the merit of Dr. Pincus' discovery, if such it is, lies in his obtaining a means by which very slight and temporary changes in tissue-growth can be detected and approximately measured.

MEDICAL ADVERTISEMENTS IN NEWSPAPERS AGAIN.

INSTANCES of medical advertising have of late been so numerous and flagrant, and the practice is so liable seriously to hurt the profession in every way, that we have not hesitated to criticise the perpetrators sharply. In this we are doing only what the sentiment of the profession as well as its material interests and dignity demand.

To those bold enough to say that there is nothing immoral in public advertising, we answer at once that they are mistaken, because whatever tends to injure our fellows is wrong; and if, of two equally good physicians, one advertises and the other does not, the latter's reputation and practice may be seriously thrown into the shade. If we as a profession should ever be driven to the position that all must advertise, then medicine loses its dignity as a calling, and has an expensive and often dishonest encumbrance added to it.

We can hardly make this plea for preserving the traditional methods of our calling without an apology for so doing. Having made it, however, we would add that, perhaps in one case out of ten of the newspaper advertisements, the doctor is not at fault. One such case apparently occurred at Auburn, N. Y., recently. We criticised severely the announcement in flaming sentences of a surgical operation done by a physician of that city. We learn from authentic sources that the doctor in question had nothing to do with the publication of the article, but that it was communicated to a reporter by the patient himself, without the knowledge of the surgeon. It is needless to say that we are extremely glad to learn and to announce that these are the real facts in the case.

THE CARTWRIGHT LECTURES ON THE BLOOD-PLAQUE.

DR. OSLER'S opening lecture upon "The Blood-Plaque" was an interesting one, and gave promise that the present Cartwright series will furnish some solid contribution to medical science. The lecture was devoted entirely to a description of the "third blood-corpuscle." This we are told is identical with the elementary corpuscle of Zimmermann, the hæmatoblasts of Hayem, and the blood-plate of Bizzozero. The so-called "invisible corpuscle" of Norris is a different thing, according to Dr. Osler, although Norris claimed that the corpuscle described by him was the same as that of Bizzozero. The blood-plaque is also identical, presumably, with the *grains sarcodiques* of Vulpian, and the globulins of Donné. Very full accounts of these bodies have been given by Bizzozero and Hayem, and this is not the first time that Dr. Osler himself has contributed to our knowledge of them.

Dr. Osler describes the blood-plaque as a colorless, protoplasmic disk, constant in the blood of mammals, measuring from 1.5 to 3.5 micro-millimetres. The number varies at different periods of life and in disease. In a healthy adult there are between 200,000 and 300,000 per cubic millimetre of blood. In the same amount of blood there are about 10,000 white and 5,000,000 red blood-cells, so that the ratios would be about 500 red cells to 25 blood-plaques and 1 white cell.

Dr. Osler gave an account of the normal and pathological variations in these corpuscles. They are more numerous in the young, and are increased in number in cachectic conditions, as was first noted by Riess; also in the convalescent stage of fevers, but not in the active stage, as Vulpian states. In certain cases of profound anæmia the blood-plaques are very scanty, while in the so-called blood diseases they vary much in number.

The modes of studying this plaque are numerous. Dr. Osler, in 1874, showed that they could be readily seen in the blood-vessels of a young rat by snipping out a piece of the subcutaneous tissue and examining it in a saline solution. It was, we believe, Bizzozero who showed that they could be seen in the circulating blood of the guinea-pig by stretching the mesentery over a ring of cork. They can be well seen also, according to Osler, by allowing the blood to flow directly into a one per cent. solution of osmic acid, or into Pacini's fluid.

The blood-plaques are smooth, homogeneous bits of protoplasm, with no nucleus. They are in the form of a flat circular disk. Seen edgewise they look like rods. There is no certain evidence that they are biconcave. When withdrawn in the blood they very rapidly disintegrate and agglutinate, forming the "granule masses" described by Schultze. They do not undergo amœboid movements.

They have been believed to be very important factors in the process of coagulation. The blood-plaque is constant in the blood of mammals, varying, however, in size. In birds there is a corpuscle which appears to be analogous with the plaque, but it is, according to Dr. Osler, nucleated.

The description of "the third blood-corpuscle," of which we have thus given a brief outline, is not a new one, but the lecturer has made valuable additions to our knowledge of it, and given a better standing to a morphological element heretofore regarded by physiologists with the suspicion always accorded to scientific strangers.

CHOLERA IN JAPAN.—The epidemic which prevailed in Japan during 1885 was recognized as cholera at Nagasaka, August 23d. The disease next made its appearance in Kumamoto. In Hiogo one case occurred on board an American man-of-war recently from Nagasaka. During September and October, cholera prevailed in many places. Reports of cases and deaths have, however, not yet been received. Forty-five counties, embracing an area of 5,600 square miles, are reported as having been infected. Cholera last prevailed in Japan in 1882.—*Bulletin of Nat. Board of Health.*

DEATH AT AN ADVANCED AGE.—According to the Russian journal *Kaspü*, a woman recently died in the Province of Baku aged one hundred and thirty. Careful statisticians have claimed that there is no authentic instance of anyone living beyond the age of one hundred and ten.

News of the Week.

THE WILL OF DR. FLINT.—By the provisions of his will, Dr. Flint gives his medical library to the New York Academy of Medicine, with the exception of such works as the family may wish to retain.

BLOOMINGDALE ASYLUM.—It is proposed to tax the Bloomingdale Asylum, and to open streets through its property. The managers naturally object to this and claim that the money saved by the freedom from taxation goes to lessen the cost of treatment, and is really applied in charity. It appears that the only point on which the managers case is weak is this: that they have no right to ask the citizens of New York City to be taxed for the support of an institution whose charities, such as they are, are not limited to the residents of New York City.

THE CONGRESS: FIGHTING OR COMPROMISING.—Everyone is liable to error, although if there are ever exceptions it is the editorial staff of a medical journal. With this proviso we must repeat our statement that the affairs of the next International Congress are not in a promising condition. There is apathy and discord at home, a state of doubtfulness and expectancy, to put it mildly, abroad. It is utterly useless to deny this, and it appears to us most unwise for certain of our esteemed contemporaries to close their eyes and blindly shout that all is well. All is not well, and no amount of strident vocalization can make it so. The death of Dr. Flint and the illness of Dr. Davis are additional blows to those who appear to wish to rule the Congress on an association basis, or ruin it. We urge attempts at peace and compromise at the St. Louis meeting. There must be some compromises or the Congress will have to meet while antagonizing a considerable and influential part of the medical profession in this country.

THE FAILURE OF MEDICAL LEGISLATION IN MARYLAND.—The *Maryland Medical Journal* states that the bill to regulate the practice of medicine in Maryland, now before the Legislature, was drawn up and at first approved by the Medical and Chirurgical Faculty of the State. The bill was modelled on that of Illinois, and provided for an examining board of five regular physicians and two homœopaths. On subsequent maturer consideration, the Faculty decided to withdraw its approbation from the bill. The *Maryland Medical Journal* says that no law can be had without some concession to homœopathy.

PROFESSOR BILLROTH has gone to Egypt on account of his health.

ANOTHER DEATH AMONG PASTEUR'S PATIENTS.—Nineteen Russian mujiks, who had all been bitten by mad wolves, arrived in Paris on March 15th, and were at once placed under M. Pasteur's care. Inoculations were at once begun and were made twice daily. On March 22d, *i.e.*, on the seventh day, one of the patients was attacked with hydrophobia and died in great agony. The symptoms of the attack came on on the fifth day, after the mujik had been inoculated over half a dozen times, from an infected cord only about seven days old. The other patients are reported as doing well.

NEW YORK HOSPITAL.—Mr. Joseph Pulitzer has given his first year's salary as Congressman, $5,000, to the New York Hospital, to found a free bed for the benefit of newspaper men.

A NEW CURE FOR CONSUMPTION.—Dr. Caius, some four hundred years ago, when an old man, tried to regain his youth by suckling the breast of a woman. He died of stone—not of old age, at least. A more successful application of this remedy is reported to us by a correspondent, who says that "a party who had every indication of the last stages of consumption has regained former health, and attributes it to obtaining his nourishment from sucking a healthy nursing woman."

CHOLERA IN EUROPE.—Our reports cover the three weeks, December 23d to January 15th, at which date cholera was still prevalent in the Department of Finisterre, France. December 23d to 30th, there were 73 cases and 14 deaths; December 31st to January 7th, 74 cases and 7 deaths, and from January 8th to 15th, 55 cases and 11 deaths.—*Bulletin Nat. Board of Health.*

CHOLERA IN AUSTRALIA.—Four deaths from cholera occurred at Sydney in December, 1885.

A DENTAL SCHOOL IN VIENNA.—The Professorial Senate in Vienna have under discussion the question of establishing a dental school in connection with the medical faculty.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF NASHVILLE graduated a class of ninety-six at its commencement on February 25th.

DR. HARVEY D. BURLINGHAM, of Plainfield, N. J., died at his residence there on March 17th, aged fifty-four. He graduated in 1857 from the College of Physicians and Surgeons, in New York, and served in the United States Navy as a surgeon during the late war. He became a resident of Plainfield in 1872.

DR. J. S. KNIGHT, Surgeon United States Navy, died suddenly of heart disease, at Hyannis, Mass., on Sunday last. Dr. Knight was born in Delaware, entered the service in 1861 as assistant surgeon, and was commissioned as surgeon in 1866.

DR. JOHN K. KANE, one of the leading practitioners of Delaware, died recently at Summit, N. J. Dr. Kane was born in Philadelphia, December 18, 1833. He studied medicine at Jefferson Medical College, Philadelphia, and at one of the medical schools in Paris, and settled in Wilmington for the practice of his profession. His brothers were General Thomas L. Kane, who went into the late war as colonel of the celebrated Bucktail Regiment of Pennsylvania, and Elisha Kent Kane, the Arctic explorer. Dr. John K. Kane accompanied the expedition which went to the northern seas in 1856 for the relief of his brother, and was one of the surgeons.

CARING FOR NEW JERSEY'S INSANE.—The commissioners of the Morris Plains Asylum presented to the legislative committee yesterday plans for a sewerage system for the institution. The contemplated expense is $30,000, and the Legislature is to be asked to make an appropriation of that sum. Dr. E. E. Smith, the medical director of the institution, has tendered his resignation, to take effect on June 1st.

POISONOUS WALL-PAPERS.—A bill has been submitted to the Massachusetts Legislature prohibiting the manufacture and sale of wall-papers containing more than one-fourth of a grain of arsenic to the square yard, and permitting the sale of such papers containing not more than one-fourth grain to the square yard. Dr. Edward S. Wood claims that arsenic is sometimes put into paste to prevent its souring. It seems that a law permitting the use of arsenic to the extent of one-half grain to the square yard, as required by English law, would answer the case. In Germany, Sweden, and Bavaria the law forbids the sale of arsenical wall-papers.

A PROPOSITION TO ESTABLISH A POST-GRADUATE SCHOOL in London is being agitated.

A PASTEUR INSTITUTE.—A commission appointed by the Academy of Sciences has decided upon the establishment of a *locale* in Paris for the treatment of persons bitten by mad dogs. It is to be called "Institut Pasteur," and is to be supported by public subscription. As it is intended to be international, subscriptions are solicited from all parts of the world. A cable despatch announces that already about $10,000 has been raised.

THE EFFICACY OF VACCINATION.—The New York State Board of Health announces that it was successful in preventing the introduction of small-pox from Montreal last fall, and that its work signally demonstrated the utility of vaccination and the activity of the New York City Board of Health virus.

DR. BOCHEFONTAINE, chief of the Laboratory of the Faculty of Medicine of Paris, died recently. He was an active opponent of the microbic theories of Pasteur and Koch, and swallowed a dose of cholera bacilli during the epidemic last year in order to prove their innocuousness.

DR. CHR. BOHR succeeds the late Professor Panum as Professor of Physiology at Copenhagen.

NOT FAVORING PASTEUR.—The Vienna city government has refused to accept the proposal of Princess Metternich to send medical men to Paris to learn Pasteur's method of preventing hydrophobia

HOPEINE is a substance which is claimed to be the alkaloid of hops. Whether there is such a thing is yet a question. It is stated that several samples of English hopeine examined were found to be really only impure morphine. On the other hand, the *Pharmaceutical Journal*, of London, claims that the alkaloid has been obtained, and is now being tested.

AGAINST CREMATION.—Dr. Frank H. Hamilton's paper, entitled "Cremation not Required as a Sanitary Measure," has deservedly received wide notice. It should put a quietus on a great deal of foolish talk about the dangers of inhumation.

A STATE HOSPITAL FOR VIRGINIA.—A Richmond paper says: "The medical fraternity are moving in the matter of securing from the Legislature an appropriation of $12,000 a year, for the maintenance of a State hospital to be located in Richmond. Without going into the full details of the scheme, as set forth in a bill now before us, we would say that the main object is to furnish "treatment for indigent persons from the State of Virginia who are suffering from curable but non-contagious diseases and injuries."

SMALL-POX IN ITALY continues to increase. During December there were 2,679 cases, distributed in 153 localities.

A COLLEGE OF PHARMACY is to be established at Buffalo, in connection with the medical department of the University. Professor R. A. Witthaus has been elected President of the faculty.

TYING THE LINGUAL ARTERY WITH THE EYES CLOSED.—Billroth has recently done several operations for cancer of the tongue. A correspondent of the *Iowa State Medical Reporter* says: "The operation, by tying the lingual artery, was nearly bloodless. In order to show the students how easy it was to tie the lingual artery, he found and ligated the same in one case, after making the first incision, without using his eyes."

THE COOK COUNTY INSANE ASYLUM.—Investigation has shown that the management of this institution, since its foundation, thirty years ago, has been unspeakably bad. It has been a part of the political machine, and care of the "boys" has been considered first, the care of the insane last. It is recommended that the institution as such be abolished, and the insane inmates be placed under the care of the State. Nothing in the history of local government in this country shows more clearly the pernicious results of the political machine system applied to medical charities.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 22, 1886.

DANIEL LEWIS, M.D., PRESIDENT, IN THE CHAIR.

DR. L. D. BULKLEY read a paper on

THE RELATIONS BETWEEN DISEASE OF THE SKIN AND DISORDERS OF OTHER ORGANS.

The skin may become idiopathically affected the same as any other organ, but local pathology has been carried so far by some as almost to ignore the existence of any relationship between diseases of the skin and the conditions of other organs.

The author of the paper read a letter received from a patient who gave an exceedingly intelligent account of her symptoms, associated with acne, rosacea, eczema, and bromidrosis; these were referable to the digestive organs, such as constipation or diarrhœa, more or less nausea, restlessness, etc., retarded menstruation, occasional attacks of severe pain in the head. Such a diversity of symptoms would almost instinctively lead one to treat the patient by other than local measures.

The subject proper of the paper was studied under the following heads: The relation which exists between diseases of the skin and (1) the digestive organs; (2) nervous disorders; (3) circulatory disorders; (4) sexual disorders; (5) general conditions, as anæmia and debility; (6) special conditions, as malaria, gout, and rheumatism.

The general conclusion of the paper was that diseases of the skin may sometimes bear important relations to other organs, and he will act most wisely in endeavoring to remedy the former who considers the whole of the individual presenting the same, and he will succeed

best who most fully recognizes and appreciates the relations which the skin and the other organs sustain to each other.

Dr. C. Heitzman had scarcely anything to criticise in Dr. Bulkley's paper, although educated in the Vienna school, which teaches that many of the skin diseases are purely local, yet a great many of them do depend upon internal diseases. Dr. Heitzman agreed with Dr. Bulkley that the parasitic skin diseases, such as tinea tonsurans, etc., are local, although some dermatologists regard them as constitutional. Urticaria, also, may depend upon disturbances of digestion, may occur independently of such disorders, and may be caused by uterine troubles. That skin diseases frequently depend upon disorders of the nervous system was very obvious.

Dr. George T. Jackson referred to the doctrines of the French and German schools, and said he believed that the middle course was the best to pursue, namely—that skin diseases may be either local or constitutional.

Dr. J. Leonard Corning spoke of the relation between skin lesions and nervous affections, and thought that we should know more of this relation as pathology advanced.

Dr. C. W. Allen believed that in very many cases the skin must present a suitable soil for the parasite to develop before the person would have such affections as favus, etc. The cause of local lesions was sometimes very near at hand, as in the case of a cutaneous lesion affecting the upper lip and alæ of the nose, caused by peculiar nasal cartarrh, etc. Diabetes also was a frequent cause of skin lesions, notably pruritus.

Dr. Hadden had seen numerous cases of disorders of the skin dependent upon diabetes, most frequently in the aged. He regarded many skin diseases as having a close relation to constitutional conditions, and addressed his treatment at first to the correction of these errors.

Dr. Bulkley in closing the discussion said that he did not wish to be understood as saying that urticaria always depended upon digestive disorders, for it also depends upon nervous disorders very frequently, etc. He believed that favus, or ring-worm, did not develop in healthy individuals, and that to treat such parasitic affections most successfully internal medication was required, such as tonics, alteratives, alkalies, etc.

Dr. Stephen Smith then read a paper on

THE EFFECTS OF HIGH TEMPERATURE ON THE PUBLIC HEALTH OF THE CITY, AND THE MEASURES FOR THEIR PREVENTION,

in which he pointed out the effect on the rate of mortality produced by the high temperature of the summer months, especially July, August, and September; also the conditions which favored an increase in mortality under the influence of high temperature, as age, rest, and activity, the introduction into the blood of decomposing animal matter, etc. The special causes of high temperature in the city of New York were Southern exposure, absence of vegetation, aggregation of stone, brick, and mortar, and crowded population. The measures for the prevention of the deleterious effects of high temperature were: moderation of the temperature of the atmosphere by means of shade-trees, and flushing the streets with water, and the daily regulating and equalizing of bodily temperature by artificial means, such as public baths.

Dr. Smith also read a bill entitled: "An Act to Secure the Increase and Protection of Shade-trees in the Streets, Avenues, Public Squares and Spaces in the City of New York," which had been prepared with the view to Legislative enactment, for the purpose of providing the city with shade-trees, and asked that it be referred to the Committee on Hygiene with the approval of the Society.

Dr. Bulkley moved to amend by including additional water-supply for flushing the streets, and it was so ordered.

Remarks were made by Drs. Peters, Carpenter, Hadden, and others, and the subject was referred to the Committee on Hygiene, with power to act for the Society, with reference to the indorsement of the proposed measure.

The President made the following

ANNOUNCEMENT OF THE DEATH OF THREE MEMBERS.

"It is my sad duty to announce the death of three members of this Society since the meeting four weeks ago. Such a record of mortality in our ranks is remarkable in several respects, for which reason I hope you will indulge my brief reference to it.

"Never, so far as can be learned, has so large a number been transferred from our midst in so brief a period. Four weeks ago to-night, they were all in the midst of their active professional labors. To-night every earthly thought, ambition, motive, and plan of those three lives is ended forever. Such a sudden stroke is an unusual reminder of the uncertainties surrounding all that relates to human life. It is also worthy of remark that all three were prominently identified with the medical history of the present day.

"Dr. Gaspar Griswold, who died after four days' illness, had not reached thirty years of age, and yet was well and favorably known as a teacher and medical writer. His future bid fair to be one of uncommon usefulness and brilliancy.

"Dr. Austin Flint was recognized in both hemispheres as one of the best of medical instructors. Flint's 'Practice of Medicine' is the best book ever written on that subject for medical students. His name and his fame will ever remain one of the brightest pages of American medical history. None who knew him personally can forget his characteristic geniality of manner and absolute purity of life, which made him a medical gentleman in the best sense of the term. No one can be found to fill his place.

"Dr. S. Oakley VanderPoel, my immediate predecessor in the chair, can receive no encomium from us which will more than equal the distinguished position he attained as an earnest, independent, conscientious man, whose wonderful energy and ability as an executive placed him in the front rank of the profession. It was fortunate for a young physician to know Dr. VanderPoel, for he had the power of impressing upon his associates, to an unusual degree, his own sterling qualities. The County Society has lost an ex-president whose name was one of its ornaments, and whose wise counsels it is hoped may not soon be forgotten.

"Dr. Agnew has kindly consented to present a memoir of his life at a future meeting; Dr. Carpenter will be memorialist for Dr. Flint, and a like announcement for Dr. Griswold will be made at the next meeting of the Society."

The Society then adjourned.

A Substitute for Cantharides.—A Spanish beetle, *Œnas afer*, has been found by Dr. Armengue, of Barcelona, to possess a vesicating principle which can be extracted and made use of like cantharides, over which it is stated to have the advantages of greater cheapness, absence of irritating effects on the kidneys and reproductive organs, and last, but not least, of entire painlessness.

Anæsthesia by Ether Vapor.—Dr. A. F. Muller (*Medical News*) reports excellent results for securing a steady flow of ether vapor to the patient. He has an apparatus consisting of two halves of a rubber foot-ball, sewed together at the edges, and connected by a tube with a bottle containing ether, which is plunged in a vessel of hot water. As ether boils at 98°, the vapor passes steadily and rapidly, and is inhaled by the patient, whose face is covered by the inhaler, protected by a clean towel. There is no nausea, no struggling, no stage of excitement. The quantity of ether varies from an ounce and a half to three ounces.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 18, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE Corresponding Secretary reported the death of Samuel Oakley VanderPoel, M.D., LL.D., Honorary and Resident Fellow; of Austin Flint, M.D., LL.D., ex-President, and, in the absence of the Statistical Secretary, of Gaspar Griswold, M.D., M.R.C.S.

The President appointed Stephen Smith, M.D., memorialist for Alfred C. Post, M.D., LL.D., and said that he should claim for himself the honor of memorialist for their distinguished ex-President, Austin Flint. Memorialists for Dr. VanderPoel and Dr. Griswold will be appointed at the next meeting of the Academy.

THE SIGNIFICANCE OF SMALL QUANTITIES OF SUGAR IN THE URINE.

The discussion on this subject was under the auspices of the Section in Theory and Practice of Medicine, Alfred L. Loomis, M.D., LL.D., Chairman, and was opened by Dr. THOMAS A. MCBRIDE, who said that he first had his attention especially directed to the significance of small quantities of sugar in the urine by Seegen, of Vienna, and that, by the adoption of therapeutic measures intended to correct this abnormal condition, he could assure this class of patients that they would be benefited, at least, and almost always be cured.

A large number of affections exhibit sugar in the urine some time during their course, and, of disturbances referable to the nervous system, cerebral hemorrhage, fracture of the skull, concussion of the brain, and certain psychoses; and in the latter particularly, the sugar is believed to exercise an important influence in the production of the symptoms of which the patient complains. Sugar may be present in the urine in certain cases of lithæmia. Dr. McBride had found sugar in the urine of persons suffering from insomnia, restlessness, and general nervousness, neurasthenia, parasthesia, general and symmetrical or asymmetrical, in hemiparæsthesia, and also in certain pareses. In two cases it was evidently the cause of temporary hemiplegia. In all these cases the ordinary tests for sugar in the urine were employed, and in many of them with negative results; but by Seegen's method the presence of sugar was demonstrated distinctly.

The method consists in filtering the urine through *blood* (not animal) charcoal (most reliable imported by Fraser & Co.), then washing the filter with distilled water, afterward testing the second, third, and fourth *washings* with Fehling's solution. From $\frac{1}{10}$ to $\frac{1}{2}$ per cent. of sugar may not be detected by the ordinary use of the Fehling test.

His treatment had consisted in regulating the diet, and the internal use of arsenic, more particularly Clemens' solution, the arsenite of bromine.

Just at present he was at a loss to say what is, and what is, not diabetes.

DR. KINNICUTT said that several years ago Lauder Brunton called attention to the fact that, occasionally, on the addition of sulphate of copper and caustic potash, or of Pavy's solution, to diabetic urine, a precipitation of the oxide of copper did not occur. He believed that it was due to the presence of some other substance in the urine, which kept the reduced oxide of copper in solution. He found that, by largely diluting such urines and so lessening the solvent power of this substance, whatever it might be, the precipitation of the oxide took place. He also had noticed that this peculiarity in reaction most commonly was present in urines which gave a purple coloration on the addition of nitric acid. Jähne long ago called attention to the fact that in normal urine, to which was added as much as one-half to one per cent. of sugar, a reduction of cuprous oxide failed to occur. Normal urine, therefore, probably contains the substance or substances which prevent the precipitation of the oxide of copper.

These facts would suggest the usefulness of the method described by Dr. McBride.

DR. R. C. M. PAGE said that glycosuria could be conveniently divided into three classes of cases: 1, that occurring after the ingestion of an excess of sugar; 2, that in which sugar is present in large quantity, but not continuous; and 3, that in which sugar is present in small or variable quantity, but persistent.

According to Niemeyer, diabetes occurs most frequently in men, and between the ages of thirty and forty years; but his experience had been that it occurs most frequently in women, and after the middle period of life; and that such cases are usually mild and intermittent. So far as treatment was concerned, he had no faith in the efficacy of drugs. Beyond affording rest, he did not regard opium as beneficial.

DR. GEORGE P. FOWLER gave an outline of the experiments and observations which led him to the conclusion that sugar, in slight trace or marked quantity, will come into the urine after being taken into an empty stomach. When, therefore, a patient comes to him with sugar in the urine, low specific gravity, and the symptoms not very severe, he immediately sets himself to work to ascertain whether or not sugar, saccharine fruit, etc., has not been partaken of freely, and whether or not there is anything wrong in the process through which sugar passes to become properly digested.

DR. W. H. DRAPER had ceased to attach very much importance to the occasional presence of very small quantities of sugar in the urine, for the reason so well stated by Dr. Fowler. He had found it very often in connection with the condition known as lithæmia; that is to say, with a variety of dyspepsia in which there is evidence in the urine of suboxidation. He had been accustomed to regard sugar in the urine, as he did an excess of urates, as an indication of defective conversion of the food elements. He had also found that the treatment which caused the disappearance of the urates also caused the disappearance of the sugar. He believed that there was a great deal of truth in Dr. McBride's statement, that he was unable to say exactly where diabetes begins. Dr. Draper thought that, frequently, the mild form of diabetes was nothing more than a form of indigestion; the grave form, the true diabetes mellitus, being that in which sugar is formed from azotized food.

DR. MCBRIDE said he had found sugar, as he supposed, in the urine of lithæmics, but when the fermentation test and the polariscope were used he had ascertained that sugar was not present.

Sugar, when present *persistently* in small quantities in the urine, seemed to indicate excess of sugar in the blood. It had been claimed by Seegen that when more than one-tenth per cent. was in the blood, it could be found in the urine, and that in this quantity it acts as an irritant to the nervous centres and produces certain nervous phenomena. Furthermore, it had occurred to Dr. McBride that the sugar might not be of the variety almost always appreciated by the ordinary tests when the urine is diluted, but perhaps is of the variety found in the muscles.

DR. DRAPER said he was well aware that uric acid occasionally gave a reduction of the oxide of copper in the use of Fehling's solution, but he had frequently verified the presence of sugar in such cases as he had described. As to the nervous symptoms due to the persistent presence of sugar in the urine, he thought it impossible to distinguish these from the symptoms which occur in cases of lithæmia in which sugar is not found in the urine.

Dr. Draper believed that gout and diabetes were closely allied, and that both were frequently found under the same conditions in which lithæmia occurred.

DR. MCBRIDE agreed with Dr. Draper, except that he thought that sugar could produce certain nervous symptoms, the same as uric acid does, and other poisons circulating in the system.

Dr. Devlin had recently seen the statement that the inhalation of nitrous oxide gas was likely to be followed by sugar in the urine, and asked if the Fellows had any experience to relate on this point.

Dr. Hudson had observed sugar in the urine after the inhalation of chloroform, but he thought that it was not of special significance.

The President said that sugar was present in the urine of a great many persons at different times without meaning much; that is, small quantities recognized by Fehling's test. Such patients may be in tolerably fair health for ten, fifteen, or twenty years or more. As a rule, such persons are under thirty years of age; rarely from forty to sixty. Not all of these are mild cases; a large number of them live for a long time; some get well. The diabetic symptoms are likely to be intermittent. Some of these patients are gouty. Under treatment, dietetic and medicinal, they get well temporarily. When such persons, however, get sick with any acute disease, especially pulmonary, they are in very great danger. Thus small quantities of sugar in the urine may mean much, or they may mean but little.

THE TREATMENT OF DIABETES.

The discussion on this part of the subject was opened by Dr. F. A. Burrall, who spoke of treatment under three heads: the dietetic, the hygienic, and the medicinal. According to Donkin, clinical experience favors the use of pure milk as the main article of diet. Glycerine is of doubtful propriety. Individual peculiarities must be considered. No exclusive plan can be given.

Dr. C. M. Cauldwell spoke of the use of jambol, which he had administered with benefit in three or four cases, and to these he could add two cases under the care of Drs. Keyes and Alexander, one of which was benefited and the other not. Probably the success in these six cases was due in a large measure to dietetic and hygienic treatment.

Dr. W. H. Draper continued the discussion and said that, excluding the dietetic treatment of diabetes, it may be truly stated that our treatment of the disease is as purely empirical as our knowledge of its pathology is speculative. This must needs be so, for until we know the determining cause of the malassimilation, which is the essential feature of the disease, we cannot expect to have any rational basis for its treatment. It is a curious fact in the history of the medicinal treatment of diabetes that we have little experience of the value of any drug independently of concurrent dietetic management. I think I may truly say that we have no testimony that drugs alone, without the more or less exclusion of starchy and saccharine foods, can check the malassimilation of glycerine in the diabetic.

While I believe that certain drugs are of service in controlling glycosuria, my experience leads me more and more toward the conviction that dietetic and hygienic means are, after all, the essential factors in the successful management of this disease.

In estimating the value of any medicinal treatment we are apt to be led astray, not only by the fact that careful exclusion of the carbohydrates is generally insisted upon, but also by the fact that many cases, perhaps the larger proportion, are cases of what has been called the benign form of the disease—cases in which the disease seems to consist simply of a loss of power to convert the food-sugars, the sugars and starches. Such cases are apt to occur in persons past middle life, with a history of acquired or hereditary gout, with a tendency to obesity, and stout persons and heavy feeders upon sweets and farinaceous stuffs. These are the cases which are often intermittent, which get well, or almost well, and remain so upon an appropriate diet and good hygienic conditions. But the grave cases, those in which glycogen is formed from the nitrogenous foods, and in which the exclusion of the carbohydrates serves only to diminish the degree of the glycosuria—cases generally occurring in persons who have received some serious nervous shock, or in whom there are evidences of tissue-degeneration—these are the cases on which to test the efficacy of drugs, and they are the cases which thus far, unhappily, are not cured, though they are often ameliorated, by the use of medicines.

The drugs upon which I am accustomed to rely in the treatment of diabetes are opium—generally in the form of codeia—the sulphide of calcium, and the alkaline carbonates. It cannot be said that the rationale of the action of any of these drugs is understood. It seems probable that opium acts through the vaso-motor nerves; but how, whether it stimulates metabolism, or in some mysterious way regulates it, it is vain to ask. It certainly is a great boon to the diabetic, and in connection with a more or less modified diet, it may cure, and it is pretty certain to control his disease. The treatment by sulphide of calcium was introduced by Dr. Husted, formerly of this city, now of Tarrytown. He was led to use it on himself by its being vaunted as a remedy for furuncles—a complication of diabetes from which he was at the time suffering. To his surprise and satisfaction he found that it not only cured his boils, but caused the sugar to disappear from his urine. Dr. Husted remains well, and is able to live in the country upon a simple, mixed diet without glycosuria. I have had considerable experience with the sulphide of calcium. I give it in ¼ and ½ grain doses, before meals, three or four times in the twenty-four hours, and in cases of the milder forms of the disease, and especially in those having a gouty history, with good result. I have never used it without some modification of the diet, but I believe that it enables the patient to enjoy more freedom in diet than he could without it.

The alkaline carbonates have been in my hands most useful remedies. It was stated by Miahle that they were a specific for diabetes, and it is doubtless to these substances that the springs which are renowned in the treatment of this disease owe their reputation.

The theory of Miahle, that they promote oxidation, is one that is based upon the chemical theory that diabetes is a disease of suboxidation. The frequent association of diabetes with gout in different members of the same family, and frequently in the same individual, and the value of alkalies in the treatment of both these disorders, are certainly striking facts, and they seem to lend some plausibility to the hypothesis that the defective metabolism in diabetes and gout is really due to a defective oxidation, and that perhaps the nearest approach to a rational treatment of both these diseases is an effort, through hygienic and medicinal means, to stimulate oxidation.

Dr. Dadirrian spoke of the treatment of diabetes practised in Constantinople. The dietetic management consisted chiefly in the use of fermented cow's milk, also used by the Germans, the French, and the English, differing from ordinary milk only in the fact that it does not contain sugar. It is called matzoon, and he had prepared it and used it, not only there but here, with good success as an article of diet.

Dr. Dawbarn spoke concerning Merck's preparation, as being the only reliable one of sulphide of calcium.

Dr. R. F. Weir spoke of the occurrence of gangrene in cases of diabetes, and referred to one case in which some of the peripheral portions of one upper extremity were involved, and in which he amputated and the patient recovered. In a second case, occurring in the lower extremity, the patient died. In a third case, the patient recovered from an attack of pneumonia, and twelve days afterward gangrene developed in one of the lower extremities and the question of amputation through the thigh arose. He found nine cases reported of amputation of the thigh for gangrene below the knee occurring in the course of diabetes, and in only one did recovery take place; in five, death occurred from shock, and in three from coma.

From this account of the success of amputation, he

deemed it best not to perform the operation, and the result showed the wisdom of the decision, because the gangrene spread, a line of demarcation did not form, and the patient died. He asked for the experience of the Fellows on this point.

Dr. Baruch spoke of the benefit of muscular exercise and massage in the treatment of diabetes.

Dr. Draper thought it very dangerous to make those suffering from the severe form of diabetes take very much exercise, especially when the nervous symptoms are prominent. In ordinary cases, exercise in the open air within the limits of fatigue is important and necessary, but fatigue in the severe form is very dangerous.

Dr. Baruch admitted the danger of over-exercise; but at the same time, with the patients' disposition to take as little exercise as possible, exercise is beneficial; but it must be regulated by the judgment of the physician.

Dr. Kinnicutt said that he was wholly in accord with Dr. Draper in regard to the danger to diabetics of overfatigue. Pavy had noticed that diabetic coma not unfrequently was developed in patients shortly after their arrival in London from long railway journeys.

Dr. Kinnicutt had seen during the past two years three cases of diabetic coma in children develop shortly after admission to hospital. He had believed at the time that the fatigue and excitement incident to admission had acted as an exciting cause in its production.

SECTION IN PRACTICE OF MEDICINE.

Stated Meeting, March 16, 1886.

Alfred L. Loomis, M.D., LL.D., Chairman.

Dr. A. Jacobi read a paper, including practical remarks,

ON THE USE OF DIGITALIS,

based on the experience of a third of a century. The general nature of digitalis and the effects produced by it were well known to all, and needed no special mention. The cardiac symptoms requiring the use of digitalis were irregular and frequent pulse, passive congestion of the pulmonary circulation with secondary bronchial catarrh, small arterial wave, cyanotic surface, coolness of the skin, sensation of chilliness, loss of nutrition, cutaneous œdema, and diminished micturition.

The effect produced by the drug in such cases was first described by Withering, one hundred and thirty years ago, who regarded digitalis as a sedative. To Traube is due the credit of proving that digitalis is a stimulant to the heart and blood-vessels.

Digitalis, with or without iron and nux vomica, acts admirably in cases of fatty heart.

In acute and chronic pulmonary consumption it is a valuable adjuvant to such remedies as arsenic, iron, etc. Repeating what Withering had said more than a century and a quarter ago, he knew of nothing which regulated so well the pulmonary circulation in phthisis as digitalis, which manifested itself by increased regularity of the pulse, etc., and digestive disturbances were not a contra-indication, since they so frequently depended upon venous stasis. In general the dyspepsia of pulmonary affections indicates the use of digitalis.

Anæmia, from almost any cause, is benefited by the use of this drug.

It is not a diuretic in healthy persons; on the contrary, it diminishes the elimination through the kidneys of both water and solid material, and when in such conditions as that of general cachexia it acts as a diuretic, it does so only by increasing arterial pressure.

From experiments on either man or the lower animals no definite conclusions have been reached concerning the exact dose required to produce the best effects.

According to his experience, the following are effective and safe: digitaline, from one-tenth to one-eighth of a grain daily, administered in three doses; extract, from one and a half to two grains, in three or two doses, may be taken, day after day, for one or more weeks. He valued the last preparation very highly, because it can be given in pill form and is easy of combination with other drugs. Digitaline is often inert. Of the leaves, from four to seven grains may be given daily with safety for as many successive days and weeks. The fluid extract had not with him proved so satisfactory as other preparations, and in urgent cases he had resolved not to rely upon it any more than upon digitaline.

Dr. Jacobi then related briefly several cases in which he had prescribed digitalis with advantage. An atheromatous heart and arteries do not bear much digitalis; the muscle is destroyed to a greater or less extent, and therefore cannot be lashed into healthy action; neither in cases of myocarditis does it do well. He had used it with benefit in Graves' disease, combined with other drugs.

Dr. W. H. Thomson was pleased with the paper, because its author had presented the action of digitalis from a clinical rather than from the supposed action derived from physiological experiments. From the literature of the subject he was in a condition of great uncertainty whether digitalis can be prescribed according to physiological data any better than dyspepsia can be treated by physiological rules. The final analysis of digitaline, which has been regarded as the quintessence of digitalis, determines that it contains *five* distinct principles, and opposed in action.

Brunton would by this fact explain the great uncertainty of the preparations of digitalis. For example, in the infusion a good deal of the antagonizing principle is present, and therefore it does not increase the power of the heart's action so much as it produces diuresis; while in the preparations in which alcohol is used as the menstruum those principles which increase the power of the heart's action are present in largest quantity. Furthermore, when we turn to the heart's action, the complexity of the problem is not diminished, for some say that it exerts an inhibitory influence on the vagus, while others claim that it affects the spinal cord, through it the splanchnic, and dilates the arteries of the abdominal viscera, and thus lowers the pressure all over the body; yet others say that it dilates the arterioles, and, lastly, and perhaps as true as any, that its principal action is upon the cardiac muscle itself, without any action upon the nerves at all.

From the physiological point of view, Dr. Thomson was unable to agree with Dr. Jacobi as to the uniformity of the action of digitalis as a cardiac tonic, meaning thereby increase of power of the normal rhythmical cardiac contraction. He had not found it beneficial in the treatment of fatty degeneration of the heart from any cause. No one doubted its efficacy in cases of mitral regurgitation with dilatation. But digitalis is capable of doing harm in many diseases, because it unquestionably increases arterial tension. In Bright's disease with cerebral symptoms he, therefore, would not use it.

In other states it is exceedingly dangerous, as in acute diseases in which, with cardiac fatty degeneration, there is arterial tension, as in certain conditions with diphtheria, etc.

The remedy is undoubtedly beneficial in cases of dyspepsia with abdominal distension, of epistaxis, anæmia, etc., as reported by Dr. Jacobi; and if any comment was to be offered, it would be as to how much was due to the digitalis and how much to the drugs with which it was combined.

Dr. F. A. Castle related two cases which confirmed what Dr. Jacobi had said with reference to the beneficial action of digitalis in cases of fatty heart, and he had also rarely failed to benefit anæmic patients by its administration.

With regard to the activity of the drug, some of the older experiments were made with the leaves, and in many

of them the *digitoxin* practically took no part, because it is insoluble in water. When, therefore, the infusion of digitalis made from the leaves is prescribed, the influence of digitoxin in increasing the power of the heart is not obtained. But if the fluid extract, which is an alcoholic preparation, is used in making the infusion, as many druggists have the habit of doing, digitoxin is administered, and an effect produced different from that obtained by using an infusion of the leaves.

Moreover, the active principles of the leaves are considerably volatile, and he had therefore been accustomed to use the tincture made from the fresh plant.

With reference to the extract spoken of by Dr. Jacobi, it had been ascertained by Dr. Squibb that in preparing it a certain amount of the active principle of the drug is rendered insoluble by the process of desiccation.

Dr. Jacobi said that he intended to speak from the practical point of view. It is agreed that digitalis produces arterial tension, and it is this that is at the bottom of all nutritive changes. Thus it is that the heart itself participates in the improved circulation and general nutrition. The reason why he used digitalis in combination with other drugs was because it was impossible to procure normal circulation without addressing the other organs of the body at the same time. For example, it was essential to keep the bowels regular and the abdominal viscera free from pressure. Thus very frequently, when giving extract of digitalis, he gave it in combination with a purgative; and as much of the circulation in the body depended upon the action of the voluntary muscles, he added nux vomica, which improved the condition of these muscles, and so on.

The topic for general discussion was

THE DIETETIC TREATMENT OF CHRONIC BRIGHT'S DISEASE.

Dr. W. H. Katzenbach opened the discussion by saying that the indications were to maintain and improve nutrition and prevent uræmia, which manifested itself, not only in disturbances of the nervous system, but in flatulence, nausea, vomiting, and frequently diarrhœa. In the selection of articles of diet, therefore, those should be chosen which are easily digested and readily assimilated

He restricted his remarks to the use of milk, which should be taken in quantities varying from three to five pints in twenty-four hours, in equal parts, at intervals of from two to four hours.

The tendency to constipation can be overcome by either, during the first few days, diluting the milk with water, Apollinaris water, or sometimes by the addition of salt, or by peptonizing the milk, or by the use of a seidlitz powder alternating mornings, or some vegetable laxative, after which, as a rule, the bowels will take care of themselves. Illustrative cases were reported.

Dr. Beverley Robinson continued the discussion, and spoke first with reference to the lack of definite directions, in text-books, on the subject under discussion. He thought it exceedingly desirable that more exact data should be obtained, based upon chemical analyses and clinical observations conducted with special reference to quantity of albumin and urea.

He had but little doubt that milk is the best single article of diet, but there were limitations to its use, as, for example, there are some persons who cannot take it, do what you will in way of preparation.

Again, even though albumin and injurious excreta are increased, it is not absolute evidence that harm is being done to the patient, because it is so essential to improve the general nutrition. It seems to be proven, moreover, that the addition of meat to the diet-list does not invariably increase the quantity of albumin excreted by the kidneys.

At St. Luke's Hospital some observations had been made in the direction indicated, and the results had been collected by Dr. E. B. Dench, House Physician. The following is a summary:

"During the last two years 70 cases of chronic Bright's disease have been treated—uncomplicated, 26; complicated, 44.

In the great majority of the cases the diet was milk and farinaceous food. In several cases the addition of farinaceous or nitrogenous food caused a diminution of the urinary secretion for twenty-four hours. In some cases such an addition increased the quantity of albumin in the urine. In one case the quantity of urine was increased by the addition of farinaceous food. The duration of treatment, dietary and medicinal, was from one to three months.

To test roughly the effect of different kinds of dietary treatment on the amount of albumin excreted, Dr. Dench made experiments in three cases. The estimation of the albumin were volumetric; the Doremus test for urea was used.

In Case 1 the milk-diet diminished the amount of albumin, and the addition of farinaceous and light diet (small quantity of meat) caused an increase in the amount of albumin.

In Case 2 there seemed to be no relation between the diet and the quantity of albumin in the urine.

In Case 3 albumin was increased after the addition of meat to the diet, except in one instance, the observations being made for several days.

Dr. Gouverneur M. Smith continued the discussion, and made special reference to a paper which he read before the Academy, April 1, 1869, "On the Etiology of Bright's Disease, with Remarks on the Prophylaxis." The paper was based upon an analysis of 308 cases gathered from the records of the New York Hospital. It seemed to him that many of the points which he then brought before the Academy are as correct as when they were read, and especially with reference to the subject under discussion, for they were based upon well-established physiological facts.

Of the 308 cases, 135 terminated fatally within the hospital, 117 patients were discharged relieved, 14 by request, and in 2 cases the patients became insane. Clinically, the different processes grouped under the term chronic Bright's disease are identical in that the usefulness of glandular structure is impaired, and that the normal functions of the kidneys are to a greater or less extent diminished.

The relations between food and the renal secretion are such that albumin in the urine can be reduced in quantity by cutting off nitrogenized principles and placing the patient on the use of rice or arrow-root, etc. This fact Dr. Smith had observed clinically. It is well known that the water and uric acid can be materially reduced by a proper adjustment of food. Years ago Lehmann proved that urea can be diminished to the minimum by an amylaceous, saccharine, or oleaginous diet. Dalton, Flint, Hammond, and Draper appear to agree that urea is traceable to a disassimilation of the azotized principles of the tissues, and also to a transmutation in the blood of the surplus nitrogenized principles which have been taken as food. The indication, therefore, is, when a patient is menaced with or suffering from uræmia, to cut off essentially nitrogenous food, and to prescribe aliment mainly composed of ternary proximate principles. The necessities of nutrition must always be kept in mind, but with superfluous or inappropriate diet the kidneys cannot receive that rest so evidently required. As diverse causes are operative in the production of chronic renal disease, a specific line of dietetic treatment cannot be laid down as exactly suited to every case, but the quaternary and ternary principles of food can often be handled so skilfully as to checkmate morbid processes.

Dr. Smith said he would venture to repeat what in substance he said in 1869—namely, that in Bright's disease, if the patient is threatened with uræmia, it is a favorable symptom if his urine is heavily loaded with albumin, as thereby a principle is rejected which if retained would directly or indirectly augment the toxæmia.

Such drain of albumin from the blood is, of course, ordinarily pernicious, and the statement just made refers to albuminuria as it occurs under the uræmic conditions alluded to; in some instances it may be beneficial, in others the reverse.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 24, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

DR. G. C. FREEBORN presented, in behalf of a candidate, a specimen of *mitral stenosis and insufficiency.*

DR. JAMES E. NEWCOMB presented a specimen which illustrated

CARCINOMA OF THE LIVER—OCCLUSION OF THE BILE-DUCT—ULCERATION OF THE GALL-BLADDER—BILIARY CALCULI.

The patient, a German, aged fifty-eight, bartender, came under observation December 26, 1885. He was in a state of great mental stupor, and no satisfactory history could be obtained. He had been complaining for four weeks; denied specific disease, but admitted great excess in alcohol.

On admission there was marked anasarca of subcutaneous tissue of legs, arms, and abdomen; abdomen excessively distended with fluid. No pleuritic effusion was made out. The liver was enlarged, reaching from just below the nipple to a point two inches below the right free border of the ribs. Heart normal. Urine, 1.020, amber colored, acid, no albumen or casts.

December 28th.—Paracentesis abdominis; 200 ounces fluid withdrawn, sp. gr. 1.010, eighty per cent. albumen, cloudy, light yellow, neutral, no sugar, peptones.

The patient was put upon diuretics, but the fluid rapidly reaccumulated, and he became very weak. The fluid oozed away from the puncture-wound, and this was allowed to continue under antiseptic pads. Five days after the evacuations became involuntary, the temperature ranged from 99° to 100.5° F., and on the eighth day the patient died.

Autopsy.—Heart: Some pericardial adhesion over upper surface; slight thickening of mitral valve with a few granulations of small, pin-head size. Lungs: Congestion and œdema of both lower lobes; three or four ounces of bloody fluid in pleural cavities. Kidneys: Some swelling of epithelium; otherwise normal. Spleen: Weighed five drachms; mottled capsule, interstitial and perisplenitis. Stomach: Mucous membrane atrophied and mottled; chronic gastritis. Liver: Gall-ducts occluded; numerous large whitish and reddish hard nodules throughout liver, some projecting from its anterior surface, cystic duct at upper end stopped by a gall-stone the size of a hazel-nut. The wall of the gall-bladder is one-fourth of an inch thick; its upper two-thirds shows roughening ulceration on the inner surface. Three hundred and ninety gall-stones (mostly small), facetted, found in the mucus and pus in the gall-bladder, which was not distended.

This case is of some interest as presenting two lesions, viz., carcinoma and gall-stones, either of which may stand in a causative relation to the other. Any cause obstructing the biliary flow through the liver will naturally cause thickening of the secretion, and we know that inspissated bile is the nucleus of many biliary calculi, hence carcinoma might lead to their formation.

On the other hand, where we have calculi in the gall-bladder we may have an inflammatory action set up, whereby we have exudation and thickening of the peritoneum covering the bladder, which is bound down by strong adhesions. The neighboring liver-tissue may become sclerosed and such inflammatory exudations may become the seat of malignant growths. Hence the presence of gall-stones may cause carcinoma.

In these latter cases we generally have a history of antecedent severe attacks of hepatic colic. In this particular case, the absence of any definite history renders this point purely a speculative one.

DR. WESLEY M. CARPENTER remarked that the specimen presented by Dr. Newcomb was especially interesting as one of primary carcinoma of the liver, which is very rare.

DR. J. C. PETERS said that the combination of gall-stones and carcinoma of the liver was on record in the Society's proceedings, and also a few cases of primary cancer of the liver, although almost all such specimens were secondary. One noteworthy case was that of cancer of the head of the pancreas with cancer of the liver and with gall-stones, which could be felt in the gall-bladder, almost counted, on account of the extreme emaciation of the patient. The head of the pancreas had pressed upon the duodenum, and had almost completely occluded the pyloric opening of the stomach, which became so distended that, at times, there was fluctuation in it almost like that obtained in ascites.

THE PRESIDENT recalled one case of primary cancer of the liver, and it was regarded as a rather anomalous specimen. In that case, also, the patient was tapped and the leakage plan carried out by making openings in the skin along the line of the *linea alba*, but without antiseptic dressings, as it was several years ago.

DR. NEWCOMB said that the antiseptic dressing in his case consisted simply in the use of a towel wet with an ordinary antiseptic solution, and the oozing stopped within a very few hours.

DR. JOHN C. PETERS then read a

MEMORIAL SKETCH OF ALFRED C. POST, M.D., LL.D.

(see p. 274), to be accompanied by resolutions prepared by the committee appointed, consisting of Drs. J. C. Peters, R. W. Amidon, and Wesley M. Carpenter, and to become part of the published proceedings.

DR. FRANK FERGUSON presented two sets of specimens as follows:

CARCINOMA OF THE RECTUM AND LIVER.

These were removed from the body of a man fifty-four years of age, a widower, and a native of the United States. He was admitted into the service of Dr. G. L. Peabody, in New York Hospital, on December 1, 1885. His father died of cancer of the rectum. In March previous to his admission he complained of "internal piles," which frequently bled. He had considerable pain in the lower part of the large bowel and in the lower part of his spine. During this time he suffered from diarrhœa and had no formed movements. He had swelling in each groin, swollen and painful left testicle since March, 1885. His appetite all this time has been poor, and he has been frequently nauseated. He gives a well-marked alcoholic history, but has had no hard drinks for two months prior to his admission.

On admission he was poorly nourished and senile. His pulse was 88; respiration, 24, and temperature, 99°. Urine was of light yellow color, alkaline in reaction, 1.010 specific gravity, contained no albumen, no sugar, and, microscopically, was negative. During the first three weeks in December he suffered considerably from diarrhœa, having some days as many as ten movements. He had moderate distention of his abdomen, and vomited occasionally.

The last week in December his vomiting became more frequent, some days vomiting three to four times. On December 28th he was etherized, and a rectal examination revealed a mass apparently as large as a hen's egg in the anterior wall of the rectum, a little to the right of the median line. Just below this mass was felt a smaller one, as large as an acorn. Both these tumors were very firm in consistency.

The first week in January his symptoms continued, his pain being less severe.

On January 9th in some way he was told, and believed, he had a carcinoma, and he became very despondent.

During the latter part of January and first of February he was troubled with vomiting occasionally, his pain was kept under control by opiates, his abdominal distention was increasing, and he was gradually failing.

The tympanites rapidly increased after the first week in February; he was tronbled with vomiting as often as four times daily some days. Pain and vomiting continued, his tympanites was very marked, and he required large quantities of morphine, frequently repeated, to keep him quiet. He gradually grew worse and on February 15, 1886, he died.

CARCINOMA OF THE STOMACH, LIVER, AND PERITONEUM.

The specimens were taken from the body of a woman thirty-five years of age, a native of Germany, and married. She was admitted into the service of Doctor G. L. Peabody, in the New York Hospital, on February 20, 1886. She gave no family history bearing on her case. She had had two children. She considered herself well until five weeks previous to her admission, which was one week after the birth of her last child. At that time her appetite became poor, she had pain in her stomach, which was relieved by the administration of opium only. Since the development of these symptoms she occasionally vomited. It was not until February 10th that she felt obliged to keep her bed. At this date she had chilly feelings, followed by fever and sweating. During this time her abdomen rapidly increased in size, she suffered from dyspnœa, and had a diarrhœa, having from two to seven movements a day. These movements were preceded by pain, from which she was free after the act of defecation. All her symptoms gradually became graver until the date of her admission, when she was troubled greatly with dyspnœa. Her appetite was very poor, she was very weak and could not sleep.

On admission her temperature was 96.2° F.; pulse, 102, and respiration 30 per minute. She was fairly nourished, anæmic, and there was slight œdema of the lower extremities. The hepatic area extended from the fifth rib above to the umbilicus. Over this area below the free costal edge on the right and in the epigastric region the surface of the liver was rough and the examination caused great pain. In the left mammary line, just below the free border of the ribs, there was an area the size of the palm of the hand in which by auscultation friction fremitus, synchronous with respiration, was obtained. The superficial glands were not enlarged. The veins over the abdomen were prominent and tortuous. There was a slight general anasarca. The abdomen was distended, tense, and fluctuating. She was cachectic and her expression was anxious.

During her short residence in the hospital she suffered considerable pain and dyspnœa. Her heart rapidly failed and she died on the 21st inst. at 6.30 A.M.

DR. CARPENTER asked Dr. Ferguson why the case was not one of primary carcinoma of the omentum.

DR. FERGUSON replied that in such a case, where the carcinoma invaded the mucous membrane, he regarded that as the primary lesion. Besides, there was evidently a continuity of the growth, which involved the mucous membrane of the pyloric extremity of the stomach, through to, and involving, the peritoneal coat, forming ing a nodular mass upon the outside, and thence extend- to the neighboring organs. Furthermore, he had seen only one case of primary carcinoma of the liver, and had never seen one of primary carcinoma of the omentum, which, although it had occurred, was exceedingly rare. Wilkes and Moxon had recorded only four cases of primary carcinoma of the liver.

DR. AMIDON asked Dr. Ferguson if his rule would apply to sarcomatous growths in the abdomen.

DR. FERGUSON said that it would not; and that sarcomatous growths could begin in connective tissue anywhere.

DR. CARPENTER reported the result of a private autopsy made several years ago, in which cancer of the omentum was found, and the cancerous mass, weighing probably two pounds, had pressed against the under surface of the left lobe of the liver, where there was also superficial cancerous infiltration. It was regarded as a case of primary carcinoma of the omentum, and the lesion of the liver was believed to be secondary because the organ had been invaded only in the region where it came in contact with the cancerous mass. Undoubtedly the cancer of the stomach was the primary lesion in Dr. Ferguson's case, and he asked the question simply to further develop the pathological relations existing in the specimens.

The Society then went into executive session.

Correspondence.

VAGINAL INJECTION—AN EASY METHOD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Every gynecologist must agree with your observation, in a recent issue of THE MEDICAL RECORD, on "The Question of Vaginal Injections," that women will not faithfully carry out any treatment which involves much trouble or discomfort, either in preparation or in application. To obviate these, and secure at once the comfort and convenience of the bidet, and the advantages of the supine posture, I have been accustomed to have a broad barrel-stave, with its ends sawn off, laid across a foot-bath (or water-bucket, or other receptacle for the waste fluid) as a seat for the patient. This may be cushioned by two folded towels, so as to leave the concave centre of the stave free to conduct the fluid into the foot-bath. By placing this—raised on a box if necessary—at the end of a couch or beside the bed, the patient can lie back, while the feet rest on the floor, and the clothing, which hangs outside the seat, is wholly undisturbed.

To save fatigue some form of irrigating apparatus is indispensable; and, of all those I know, the "Reymond Siphon Syringe" is the best. Indeed, for simplicity and convenience it leaves nothing to ask, enabling the patient to take, absolutely without effort, an injection as copious or long-continued as may be desired. It consists of a rubber tube some eight feet long, which, near its upper end, is passed through two holes made in a common spring-clothes-pin that clasps the edge of the pail or other container of the injection-liquid. This end is weighted, as usual, to hold it at the bottom of the pail. The lower end terminates in a hard-rubber nozzle, a foot or so above which is placed the clamp to close the tube, and just above this a valveless bulb. The container being secured at the proper height, and the patient in position, a single squeeze of the bulb forces the air up through the liquid, which at once fills its place. Then, on opening the clamp, the flow starts and continues until the supply is exhausted.

JOHN WINSLOW, M.D.

ITHACA, N. Y., March 10, 1886.

PRACTICES OF THE COLORED TRICK DOCTOR IN SOUTH CAROLINA—AIKEN, S. C., AS A HEALTHFUL RESORT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An old negro man having general paralysis was under the care of Dr. Croft, but the wife of the patient having learned of the wonderful powers of a colored doctor then in the neighborhood sought his advice. He offered to "raise the old man up" for so much in hand and so much when he was "raised." After establishing himself at the family fireside and studying the case, he decided the patient was "tricked," and suffering from the presence of snails and worms within his body. After prayers he produced a cow's horn, with the tip sawn off,

and after lancing the man's arm placed the large end of the horn over the part lanced, and desired the wife to suck on the end of the horn and thus draw out the aforesaid creatures; the same procedure was done on the man's back. On removal of the horn it was found partly filled with worms, leeches, and a frog. A wonderful influence was effected upon all members of the family except the old man, who was not "raised up." The doctor remained at the family fireside for two or three weeks, they all being under his spell. As success had not followed they desired to get rid of him, but he would not depart, claiming the man had been "tricked" again, and that before he tried again he must marry the daughter; and if this was not accomplished at a certain time, the old man would die, and a spell fall on them—they would have fits, and on recovering would run and drown themselves.

The family became demoralized, but finally sought the doctor formerly in charge. The wife came into his office very much bewildered, saying she was under a "spell," and sought advice; she was in a state of abject fear, and trembled as she talked, as the time to marry her daughter to the "trick doctor" was at hand. After trying to quiet her fears the doctor asked if the man had a license to practise medicine; she thought he must have. After much persuasion she was induced to make a complaint to the magistrate, but doubted his power.

The "trick doctor" unwittingly wandered into town and was arrested. All through the trial he kept his eyes on the woman, and on retiring, after his conviction as a vagrant, said his spell would still work. His surgical instruments, cow's horn, and the result of the cupping in bottles, some morphia, and a license to preach are in possession of Dr. Croft. It is a good thing for the naturally superstitious colored race that the medical registration act is in force to prevent them being so actively treated as heretofore by the itinerant colored "trick doctor."

A few words about Aiken, S. C., as a healthful resort during the inclement season at the North. The presence here from year to year of those whose means enable them to seek any clime for pleasure and comfort, irrespective of bodily ills, speaks well for it. Officers of our navy, who have floated on every sea and touched all ports, winter here when able to do so.

Here and there you see cases that might better stay at home. Come early and stay late is the advice of those benefited.

Till the benefit of climate, under proper medical advice, has been superseded by a specific against the bacillus tuberculosis, it is best to take advantage of it early and continuously. Very respectfully, W. S. L.

AIKEN, S. C., February, 1886.

THE FATTENING EFFECT OF CHEWING GUM.—A Southern paper *Macon* (Ga.) *Messenger* says: "Twenty years ago the rule was that Southern women were thin and delicate; it is not the rule now. Southern women are not physically equalled in all North America. Any physician who is as well informed as he ought to be will tell you that this is true This change is due to the habit of chewing gum. You may smile, you may even laugh, if you please, but I am telling you a plain fact. As to Southern men, they are as thin and gaunt as they ever were, and so they will remain until they cease to chew tobacco and begin to chew gum."

MENINGITIS FOLLOWING ENUCLEATION OF THE EYEBALL.—At a recent meeting of the London Ophthalmological Society, a paper was read by Mr. Nettleship, Ophthalmic Surgeon to St. Thomas' Hospital, in which the details were given of a case in which meningitis occurred after excision of the eyeball. The case was fatal. Only twenty-nine cases have previously been recorded, and of these twenty-five have proved fatal, making, with Mr. Nettleship's, a total fatality of twenty-six out of thirty cases.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 20, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
March 20, 1886.....	1	17	51	8	8	57	6	0
Deaths.								
March 20, 1886.....	2	7	8	7	1	27	1	0

A MAN OF MANY TALENTS.—One of the most versatile of medical men of the present day is Sir Henry Thompson. He attained eminence many years ago in his own profession, specially distinguishing himself in the field of urethral surgery. He is also well known as an artist, having frequently been an exhibitor at the Royal Academy. He is not unknown as a writer and speaker, having on several occasions championed the cause of temperance reform. He is now busy with a new novel, and bids fair to attain equal renown in the field of romance.

INSOMNIA IN THE AGED AND ITS TREATMENT.—In opening a discussion on this subject, Dr. C. L. Dana said that he had found the information contained in the text-books upon insomnia in the aged was very slight in amount. Insomnia was not frequent in the aged, but when it was present it was sometimes very intractable. Pathologists thought it was due to anæmia and malnutrition. The thickened arterial walls and the high arterial tension from the contracted kidneys, and similar states, which were found in the aged, would indicate that the blood-supply to the brain was deficient. The insomnia produced by anæmia was characterized by drowsiness during the daytime, the patient falling into little naps, while at night he was unable to obtain any rest. This was true of the young as well as the old. If in any case we found no actual disease, it was customary to try iron and rich diet. In the speaker's experience, however, iron did not relieve the anæmia of the aged so as to produce sleep. Alcohol with the food was another remedy, and many recommended hot gruel or hot milk with alcohol before going to bed. While alcohol would relieve some cases, there were others in which the insomnia was increased. The bromides and chloral, even when given in enormous doses, often failed to give relief. Opium was another remedy. Dr. H. C. Wood had recommended that we make our aged people opium-eaters and alcohol-drinkers. The speaker had not found that opium always agreed with the aged, and in his experience, where opium had produced sleep, it was sometimes followed by such physical and mental depression as precluded its further use. Good results had been obtained with a combination of cannabis indica and codeia; from five to six minims of the fluid extract of cannabis indica with one-sixth to one-eighth of a grain of codeia might be used. Fraser's "Trituration Tablets" were a convenient vehicle for their administration. One-fourth of a grain of the extract of cannabis indica taken alone was sometimes effective. As a rule, however, the combination with codeia was preferable. Hyoscyamine was sometimes useful, but in nervous, flighty persons it would sometimes produce an actual delirium. Under ordinary circumstances the dose should not be increased above one-fortieth of a grain to obtain the desired effect. The effect of these remedies, he thought, had been increased by the addition of from two to three drops of

tincture of aconite two or three times a day to relieve the tension of the blood-vessels. Tincture of valerian and compound spirits of lavender sometimes acted like a charm in relieving insomnia. Large doses (ʒj.) of lupulin were also often effective. To recapitulate, then: In the treatment of insomnia in the aged he had been disappointed in bromide and chloral, and considered the results of opium sometimes disastrous. He recommended, therefore, good food, warm drinks at night, and small doses of codeia with canabis indica. Valerian and lavender, hyoscyamine, and lupulin sometimes were also useful drugs.—*Bulletin of Clinical Society, N. Y. P. G. M. S.*"

IODIDE OF SODIUM AND CALOMEL IN CONJUNCTIVITIS.—For inflammation of the conjunctiva, A. Bellyarminov, writing in the Russian *Ophthalmic Review*, advises the employment of iodide of sodium in large doses internally, and local treatment at the same time by blowing calomel into the conjunctival sac. This produces, after the second application, a swelling of the eyelids and of the conjunctivæ. Sometimes, also, streaks of yellowish scales may be seen on the conjunctivæ, but they fall off in three days, and by that time all the inflammation is found to have disappeared.

YERBA SANTA AS A VEHICLE FOR QUININE.—Mr. J. D. Aug. Hartz, of College Point, L. I., writes: "A vehicle for the successful masking of the bitterness of sulphate of quinia has long been a desideratum to practitioners. This want has been partially met by various secret elixirs, fluid extracts, etc., which more or less accomplish their purpose, but which are mainly designed to enrich the compounders. Yerba santa, glycyrrhiza, and coffee have in turn been employed, the former with the best results. A Western firm discloses this ingredient in the name of a preparation offered for disguising quinine; other firms hide this drug under fictitious names. With a view of producing a compound which by its non-secrecy may obtain the approval of physicians who desire to prescribe intelligently, and in order to avoid the vexation to pharmaceutists by being compelled to keep on their shelves a number of preparations all designed for the same purpose, I have, after repeated experiments, compounded a mixture for which, for the sake of uniformity in designation, the name of 'Syrupus Corrigens' is proposed. One fluidrachm will so obliterate the taste of two grains of quinine that only a slight bitterness is perceptible some time after the medicine has been taken. The ingredients in a fluidounce are: Aqueous fluid extract yerba santa, f ʒ j.; syrup, f ʒ vij.; oil of orange, ♏ jss.; chloroform, ♏ ¼."

PERMANENT DRAINAGE IN ASCITES.—Dr. Marcell Hartwig, of Buffalo, proposes to secure permanent drainage of ascitic fluid into the subcutaneous tissues of the abdomen by means of a bent tube of gold, silver, hard rubber, or bone. The tube is to be inserted with one extremity opening into the peritoneal cavity and the other buried in the subcutaneous tissues, and left in position as long as may be necessary. Dr. Hartwig says that experience with wire sutures shows that the drain would probably remain patulous, without causing irritation, for a considerable time, perhaps years; and when ulceration did occur, it would be a simple matter to remove the tube.

THE TREATMENT OF INFANTILE PARALYSIS.—In a lecture recently delivered by Dr. William Murrell, a plan of treatment has been formulated which, it is to be hoped, may prove as successful in other hands as it appears to have been in his own. The treatment consists essentially in the administration of aconite during the acute stage while fever is present, followed, after a lapse of three or four days, by physostigma, combined still later with suitable doses of phosphorus. So much for the medicinal part; but, simultaneously with the latter portion of the treatment, recourse must be had to massage, not the massage ordinarily in use, which frequently proves inefficacious, but a massage conducted on the scientific plan laid down by Metzger, of Amsterdam, and Von Mosengeil, of Bonn. This process is divided into four forms, or gradations, first, *effleurage* (surface rubbing); secondly, friction, a more vigorous application of the preceding; then the *pétrissage* (kneading); and, finally, *tapotement*, which is a form of percussion. When the cases are taken in hand early, a marked improvement is promptly perceived, the temperature of the affected limb approaches the normal, and the nutrition of the tissues acquires a fresh stimulus.

THE HYGIENE OF PREGNANCY.—Let the patient eat but little in the latter months, though she may eat a little frequently during the day. A large meal causes much inconvenience, due to the already enlarged abdomen. A bandage properly applied around the abdomen is useful and comfortable. She should sleep eight hours; and take an occasional bath in tepid water. If leucorrhœa be present, let her use an injection of salt water, and bathe the external genitalia with tepid water. For the breasts, use oily matters, and no alcohol. In the morning the nipples may be painted with equal parts of tincture of arnica and water, but in the evening should be covered with cocoa-butter. High-heeled shoes should be dispensed with during pregnancy.—PROFESSOR PARVIN in *Coll. and Clin. Record.*

HYDROBROMATE OF HYOSCINE.—Dr. P. M. Wise, of Willard Asylum for the Insane, Willard, Seneca Lake, N. Y., writes: "The recent use of hydrobromate of hyoscine as a hypnotic, in substitution for the coarser alkaloid hyoscyamine, has led to such different experiences, as recorded in several articles in recent medical literature,[1] as to lead one to suppose the drug used by the several writers was not of a uniform nature. Hyoscine obtained for use at the Willard Asylum, where its action has been carefully observed for a number of months, was obtained through Merck's authorized agents in New York, and was delivered in original packages. To be assured that there was no 'reasonable ground for doubt that the substance employed emanated from Merck's laboratory,' it was obtained from several different importing agents in packages of various sizes, with the original seals unbroken. This is the purported source of the preparation used by the above-mentioned writers. The preparation of the aqueous solution was made with great care, and to eliminate any element of doubt with regard to deterioration of the solution, it was kept only in ground-glass stoppered bottles. The conclusions reached by the medical staff of the asylum, in respect to its value as a hypnotic, are nearly identical with those of Drs. Peterson and Langdon, of the Hudson River State Hospital (MEDICAL RECORD, September 19, 1885)—that it disposes to sleep indirectly after several hours, when given in sufficient doses to produce its marked physiological effect, such as muscular relaxation, and, occasionally, stupor; but that it cannot be regarded as a hypnotic in its proper sense. Its use in active mania and melancholia was not attended with desirable results. In cases of insomnia it failed in doses short of producing its disagreeable effects—midriasis and dryness of the throat and mouth. In our experience it does not possess the value of hyoscyamine in any of the uses to which it is ordinarily applied. It has been used in doses varying from $\frac{1}{300}$ to $\frac{1}{75}$ of a grain. I may state, incidentally, that I have used it in the case of my own child, nine years of age, suffering from whooping-cough, in doses increased from $\frac{1}{300}$ to $\frac{1}{100}$ of a grain, with the effect of producing dilatation of the pupil and dryness of the throat, but without appreciable relief from the paroxysms or insomnia."

[1] American Journal of Insanity, October, 1885; New York MEDICAL RECORD, September 19, 1885; Philadelphia Medical News, December 12, 1885.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 14 NEW YORK, APRIL 3, 1886 Whole No. 804

Original Lectures.

ON CERTAIN PROBLEMS IN THE PHYSIOLOGY OF THE BLOOD-CORPUSCLES.

THE CARTWRIGHT LECTURES, DELIVERED BEFORE THE ASSOCIATION OF THE ALUMNI OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, MARCH 23, 1886.

BY WILLIAM OSLER, M.D.,

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LECTURE I.

THE BLOOD-PLAQUE.

INTRODUCTION.—Around the blood-corpuscles still centre some of the most interesting questions in physiology and pathology, and though amid microbes and cultures we may have forgotten them for the moment, they are nevertheless still calling for solution, and perplexing this quite as much as any one of the six or seven generations which have passed away since Loeuwenhoek first detected the red corpuscles in the human blood.

The origin and life history of the corpuscles of the blood have been, and still are, among the *great secrets* of physiology. Strange, indeed, is it to think of the thousands of able observers who have gazed long and ardently, with rude and with perfect instruments, vainly endeavoring to solve the riddle constantly propounded by these common objects of study. In no department of physiology has so much labor been spent with so little apparent result. While in other lines we have penetrated to the centre of certain biological mysteries, the progress here seems painfully slow, and the discovery by Wharton Jones, in 1843, of the amœboid power of the colorless corpuscles, the rediscovery by Cohnheim of their migratory power, and the discovery of the blood-forming function of the marrow, may be said to be the most important additions to our knowledge in this generation.

The activity of research during the past decade has had, however, a perceptible influence, and there are signs of breaking in the heavy clouds which overhang the origin of the corpuscles, and the darkness is certainly less dense than it was.

A peculiarity of these perennial problems is that certain phases for the time engage the attention of observers, and the laboratory activity the world over seems centred upon them, with the result, in a few years, of an enormous increase in the literature; and after the question has been thoroughly fought out and quiet is resumed, we are thankful if only an outpost has been gained in the struggle, and we are a step nearer to the citadel of truth.

As regards the blood-corpuscles, the work of the past few years has been largely in two directions—toward the determination of the existence or non-existence of a third corpuscle in the blood, and in the study of the histological processes attending degeneration and regeneration of the corpuscles in disease; and upon these subjects I shall hope to engage your attention during this course.

I propose, therefore, in the first lecture to consider the much debated third corpuscle, or hæmatoblast of Hayem, which, so far as I know, has not yet received systematic consideration before any American or English audience. In the second I shall discuss certain histological problems connected with the degeneration and regeneration in the blood-corpuscles; and in the third I shall present a statement of recent views on the relation of the corpuscles to coagulation.

THE THIRD CORPUSCLE, OR BLOOD-PLAQUE.—*Definition.*—A colorless protoplasmic disk, constant in mammalian blood, measuringfrom 1.5 to 3.5 micromillimetres. The number per cubic millimetre in the blood of a healthy adult is about two hundred and fifty thousand, but their number varies greatly at different periods of life, and with varying conditions of health and disease. The ratio to the red is about one to eighteen or twenty. They are delicate elements, and, like the red corpuscles, tend on the withdrawal of the blood to adhere to one another, when they form the irregular granular clumps which have long been known as Schultze's granule-masses.

Name.—It will be necessary, at the outset, to refer to the names which observers have given to this corpuscle. Unfortunately they are rather numerous, and no one of them entirely satisfactory. Donne,[1] whose description is the earliest, called them *globulins*. Zimmerman[2] spoke of them as *elementary corpuscles*. Later, the collected groups were referred to as "*granular débris*," or Schultze's[3] *granule-masses*. Among the more recent observers, Hayem[4] gave the name of *hæmatoblast*, and Bizzozero[5] that of *blutplattchen—blood-plate*. Various writers refer to this element as the *third corpuscle*, while in the research of Kemp,[6] just issued from the Biological Laboratory of Johns Hopkins University, the term *plaque* is used, and has received the sanction of Professor Martin. To the terms *third corpuscle* and *hæmatoblast* there is the serious objection that these names have been applied to other bodies which have nothing to do with the elements in question. The former, to the so-called invisible corpuscle[7] of Norris,[8] and the latter to the nucleated red corpuscle of the bone-marrow. The name hæmatoblast, moreover, carries with it certain theoretical conceptions regarding the functions of these bodies which may or may not be true. I am inclined to favor the name which Bizzozero has adopted, partly because we are indebted to the distinguished Turin professor for a series of able researches which have awakened the liveliest interest in these corpuscles, and partly because usage of late has confirmed the name. Blood-plate, the English equivalent of the word *blutplattchen*, is by no means euphonious, while the French *plaque*, adopted by Kemp, is perhaps more convenient, and might be employed in the future by American and English writers.[9]

Methods of Study.—Let us first consider the plaques in blood examined in the usual manner, without the addition of any reagent; and let us suppose the blood to be taken from a case of consumption or cancer, or from

[1] Donné: Compt. rend. de l'Acad. des Sciences, 1842.
[2] Zimmerman: Virchow's Archiv, Bd. xviii.
[3] Schultze: Archiv f. mikr. Anatomie, Bd. i.
[4] Hayem: Archiv de Physiol., 1878–79.
[5] Bizzozero: Virchow's Archiv, Bd. xc.
[6] Kemp: Studies from the Biological Laboratory of Johns Hopkins University, 1886.
[7] Shortly after the publication of Bizzozero's paper, Norris claimed that the corpuscles described in it were the same as the barely visible corpuscles of his "fugitive group," but a study of the beautiful photographs in his book will, I think, convince anyone with a practical knowledge of the blood-plates of Bizzozero that they are separate elements. The granules which he figures (Fig. 45) as resulting from the breaking up of the younger or fugitive corpuscles are in reality the disintegrated blood-plates. Moreover, the corpuscles which he figures are uniformly larger than the blood-plates.
[8] Norris: Physiology and Pathology of the Blood, 1882.
[9] I did think of suggesting the word *disklet* as very suitable for these *little disks*, but I had not the courage to add another to the already long list; moreover, as my own name has been used in connection with these bodies, I felt absolved from further sponsorial duties on their behalf.

a new-born animal, as in these states these corpuscles are abundant. We then find, in addition to the red and colorless corpuscles, many grayish-white granular masses of various sizes and shapes. Examined at once, and if too much pressure is not exercised by the top-cover, the edges of these masses are clearly defined, and they form compact aggregations. With a power of five hundred diameters the composite structure is well seen, and the granular character is plainly discernible to be due to the

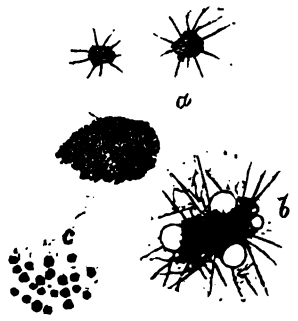

FIG. 1.—*a*, Aggregations of plaques in human blood, forming the so-called *granule-masses* of Max Schultze; *b*, disintegration of the plaques, with fibrin filaments and mucin-like spheres adhering to the mass; *c*, isolated plaques.

agglutination of numerous small bodies of uniform size. At the edges, isolated or partially free corpuscles can usually be noticed. The fibrin filaments, as coagulation proceeds, seem to radiate from the masses as centres. This remarkable conglutination of the plaques, and a tendency to undergo rapid change, have retarded greatly the recognition of the corpuscles as veritable elements of the blood. Observers have, as a rule, seen in them nothing more than a granular débris of no special significance. Nor is this to be wondered at, as they so quickly undergo changes that the clusters, in the course of a short time, really present the appearance of disintegrating protoplasm (Fig. 1, *b*). The size and shape of the groups are most variable; the more abundant, as a rule, the plaques, the larger and more numerous the aggregations; the smaller ones, composed of two or three plaques, may not equal in size a red corpuscle, while the larger ones may be ten or fifteen times the size. A tendency to adhere to foreign particles is very noticeable, and they will collect in numbers upon a fine thread of cotton or linen. In the normal blood of the adult the plaques are not very numerous, and so do not form very large collections. In some individuals, however, in health the groups are always of considerable size.

There are conditions of the blood in which, from some cause, the attraction of the plaques to each other appears diminished, and instead of forming large masses they adhere to the slide either isolated or in scattered groups of from two to ten in number (Fig. 1, *c*). Possibly this may be an accident of preparation, but I am inclined to think it not, from the fact that I have noted it in cases of malignant fever, small-pox, scarlet fever—the very states in which the normal process of nummulation of the red corpuscles may be so altered that the cells aggregate into compact clumps. In fact, the red corpuscle and the plaque in normal blood have each their peculiar mode of aggregation, the red in series and the plaque in masses. I have never seen any appearance which would suggest that the plaques have the slightest tendency to adhere by their flat surface, and to form rouleaux, as the red. It will be found too, I think, that just as there are, apart from modes of preparation, peculiarities which interfere with the normal nummulation of the red, so there are conditions in which the plaques present variations in their usual method of aggregation.

It was a consideration of the relative size of the masses, and the impossibility of their passing through the capillaries, which led me in 1873, in University College Laboratory, London, to the discovery of their corpuscular nature; and it was found that while in the blood of the young rat, when withdrawn, the masses were numerous and large, in the blood-vessels the collections, as such, never occurred, but innumerable small corpuscles, similar in character to those seen at times so plainly at the edge of the masses.

To study the plaques properly, the blood must be allowed to pass directly into a solution which, while preventing conglutination, does not materially alter their form or characters. Or they may be, perhaps, more satisfactorily observed while still within the blood-vessels.

Various solutions have been employed by different observers. Zimmerman, whose study of these corpuscles was really very complete, allowed the blood to flow directly into a solution of a neutral salt which prevented coagulation, and then in the supernatant fluid he found small colorless cells in extraordinary numbers. I have repeatedly confirmed this observation in the case of horses' blood, when demonstrating the common experiment of preventing clotting by letting the blood flow into sodium sulphate. The plaques abound in the clear serum, and if the solution is not too concentrated they are very little altered. In using the hæmacytometer (Gowers), the sulphate of soda with which the blood is mixed acts in the same way, although in the counter it is more common to find the plaques aggregated than isolated, but the individual plaques are unusually distinct. More suitable solutions for histological purposes are osmic acid one per cent., the fluids of Pacini, modified by Hayem, and of Bizzozero. Pacini's solution, as used by Hayem, consists of sodium chloride 1 part, sodium sulphate 5 parts, corrosive sublimate 0.5 part, in 200 of distilled water. Bizzozero employs the ordinary salt solution, $\frac{1}{4}$ per cent., to which methyl-violet has been added. Afanassiew recommends strongly the use of salt solution to which 0.5 per cent. of dried pepsin has been added, and 1 to 1,000 of methyl-violet, and a small amount of sublimate or carbolic acid to prevent decomposition. I find that the Pacini fluid and osmic acid answer every purpose, and in them the plaques undergo very little change.

The examination is made in the following way: Upon the thoroughly cleansed finger-pad a single drop of the solution is placed, and with a sharp needle, or pricker, the skin is pierced through the drop, so that the blood passes at once into the fluid, which is then received upon a slide and covered. The withdrawal of the corpuscles into the solution prevents the plaques from aggregating, and they remain as isolated and distinct elements. The amount of blood allowed to flow into the drop must not be large, and should be quickly mixed. In many respects the most suitable medium is osmic acid, one-half to one per cent., which has the advantage that by its use permanent preparations can be obtained. The various cells are at once fixed, and the plaques are, by this method, very well preserved. Good preparations may also be obtained by spreading rapidly a thin film of blood on a top-cover, and then placing it at once in the osmic acid. Still another method is to dry the blood in the thinnest possible layer, and then fix with osmic acid or stain with methyl-violet, and mount in balsam. Kemp recommends placing the blood-drop on a top-cover, rapidly moving it about, and then washing off the superfluous blood with salt solution. The plaques adhere to the cover, while the red cells are swept away. The cover is then quickly put in osmic acid.

For the study of the plaques in the circulating blood, the mesentery or omentum plate must be employed, and similar measures adopted to those used in the study of the circulation of the blood in mammals. The half-grown rabbit, white rat, or guinea-pig will be found best adapted for this purpose. The chief difficulties arise from the amount of fat which, in some instances, obscures the vessels, and the rapidity of the current may render it hard to see the plaques. But when, as in the omentum, a small transparent vessel is found, in which the current is slow, then with the red and colorless corpuscles the smaller plaques are also seen (Fig. 2). In

Bizzozero's paper, and in the recent communication of Eberth, full directions are given for the study of the plaques in the circulating blood. They are modifications of the original Sanderson-Stricker method (*vide* Sanderson's "Handbook"), which answers every purpose in the case of the guinea-pig, the omentum of which is a peculiarly suitable object. In the rapidly flowing current no plaques

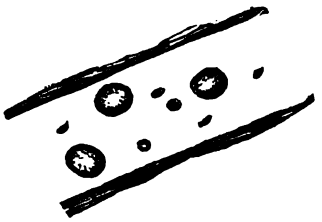

FIG. 2.—Plaques in Circulating Blood, Omentum of Guinea-pig. January 18, 1883.

are distinguishable, but when the stream is slow they can be seen here and there in the still layer with the white corpuscles, while if the current becomes very feeble, they tend to collect at the periphery with the leucocytes. In a small venule, where the stream is slow, and only a few corpuscles passing, the best opportunity is afforded of seeing the plaques. They may be well studied within the vessels in the recently killed animal, or in man, in portions of tumors, etc., recently removed. The subcutaneous tissues of the new-born rat afford perhaps the very best situation in which to study the plaques while within the vessels. The rat is killed with a snip of the scissors through the spine, and then portions of the mucoid con-

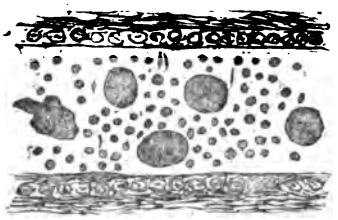

FIG. 3.—Plaques in Small Artery from Subcutaneous Tissue of Scrotum of Man, one hour after removal. Case of elephantiasis, November 20, 1885. They had collected in numbers at this portion of the vessel.

nective tissue are spread thin upon the slip, either with or without saline solution. In the thin transparent vessels, the plaques are very distinct, and they remain unchanged for hours. Perhaps there is no better mode of studying these forms, as the thin walls offer no impediment to the view, and the plaques are in their natural medium. In the subcutaneous tissue of man I have had several opportunities of examining the plaques in this way, and Fig. 3 represents them in a vessel of the tissue of the scrotum an hour after its removal. In the smaller vessels of the pia mater they may also be seen.

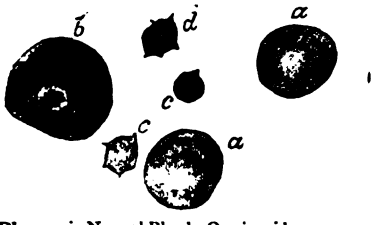

FIG. 4.—Isolated Plaques in Normal Blood. Osmic acid one per cent.; one-twelfth im. (Zeiss). *a*, Red corpuscles; *b*, a white corpuscle; *c*, *c*, plaques with slightly irregular margins; *d*, plaque with faint granular appearance in centre, as if nucleated.

General characters and structure.—The plaques are minute elements circulating in the plasma with the other corpuscles, and possessing such specific and distinct characters that they must be reckoned among the normal histological constituents of the blood.

The plaque is colorless, with a uniform grayish-white appearance, homogeneous or very finely granular, and presents no differentiation in the delicate protoplasm of which it is composed. So far as my observation goes, it is always colorless.

The *size* is variable. In man they may be said to measure from 1.5 to 3.5 of a micromillimetre, or from about one-sixth to one-half the size of a red blood-corpuscle. The majority of them are from 1.5 to 2.5 μ. Occasionally a plaque may be seen measuring as much as five micromillimetres, but this is exceptional. When they are abundant, remarkable gradations in size may be measured between the smallest and largest forms. They have not the constancy in size of the red corpuscle. I think in man, when very abundant, the average size is slightly less than when they are not so numerous. They are stated to bear in size some relation to the size of the red corpuscle of the animal, but we need a more elaborate series of measurements to determine this. In the white rat they are slightly smaller than in man.

The shape of the normal plaque, as seen in the vessels, is a circular disk with smooth, well-defined margin. When slightly tilted it has naturally an ovoid appearance, and when seen in profile is as a narrow, straight rod or staff. Whether they are flat disks, or biconcave, as like red corpuscles, is really not easy to determine. I should say that the majority do not show a bilateral depression, but forms are sometimes seen which resemble in outline very closely a miniature biconcave disk. Alterations in form quickly occur when the blood is withdrawn; but the natural shape, as seen in the vessel, and also, as a rule, in Pacini's fluid, or osmic acid, is as here stated.

The plaque consists of a homogeneous, smooth, structureless protoplasm of a light gray color. In the unaltered condition no nucleus can be seen, but in the fluids used to conserve them the appearance is in the form of a collection of distinct granules, which may look like a nucleus. This will sometimes, in dried preparations, stain a deeper color in the hæmatoxylon than the remainder of the plaque, and it is regarded by Hayem as a nucleus.

Changes in the plaques.—Outside the vessels the plaques are characterized by two peculiarities which have been a serious hindrance to their recognition as special elements of the blood, viz., the rapidity with which the protoplasm alters and the tendency to adhere to one another and to any substance with which they may come in contact. Within the vessels, however, they do not seem to be more prone to rapid decay than the red or white corpuscles, and in the young rat, kept at ordinary temperature, I have seen them in the vessels quite distinct and clear twenty-four hours after death. So also I have found them unaltered in the vessels of the pia mater in man, some hours after death; and, as I shall have occasion to show in the third lecture, they may in masses remain apparently unchanged for some time.

The substance composing the plaque appears homogeneous when first seen, but soon a change occurs, and

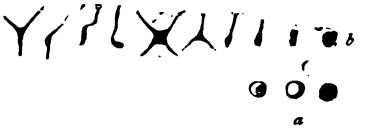

FIG. 5.—*a*, Changes in appearance of the plaque, due to separation of its protoplasm into a darker and clearer portion; *b*, alterations in form of plaques examined in blood-serum and watched for three hours.

the plaque presents a darker, more highly refractile portion, and a clearer substance. Usually this darker portion is peripheral, but it may be central, and then is not unlike nucleus. It is as if a material had separated from the stroma or basis of the plaque, just as the hæmoglobin of the red corpuscle may do under the influence of reagents. The plaques undergo the most curious changes in shape, to the study of which I devoted much time in 1873.[1] Within the vessels they are circular, but when at rest they not infrequently become ovoid or prolonged, or slightly angular. These angula-

[1] Osler: Proceedings of the Royal Society, 1874.

processes may increase greatly in length, and give a stellate appearance to the plaque. The changes in form are very fully described and figured in my original paper. These alterations are probably induced by changes in the external conditions, and are not amœboid or vital in character. The addition of serum to the blood-drop, and the examination in a warm stage, afford the best means of studying the variations in form. Even within the vessels they may show these changes, and in the course of a few hours alter in a remarkable manner, so as to be scarcely recognizable.

A very common change is the separation from the plaque of a mucin-like (?) material in the form of a pale sphere, which may remain attached to the cell or separate from it. When aggregated in masses, as in a slide of fresh blood, this process can be readily seen at the margin, and the field in the vicinity may be covered with these pale globular bodies. They result, doubtless, from the separation of a material from the substance of the plaque, and are identical with the spheres so often seen attached to spermatozoa in urine.

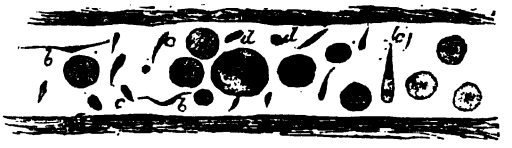

FIG. 6.—Alterations in the Plaque while within the Blood-vessels, sketched after three hours on the warm stage. April 6, 1873.

In marked contrast to the stability of the plaques within the vessels is their rapid disintegration when withdrawn. At a low temperature this does not occur so quickly, and of this Hayem took advantage in his researches; but at the ordinary temperature, and in the examination of the blood without any reagent, the plaques unite with each other and undergo rapid change —a viscous metamorphosis, as Eberth [1] terms it. As I shall have occasion to point out, this is associated with the separation of fibrin which seems to arise first about the groups of plaques, as Ranvier [2] noted in 1873, and he spoke of these little granulations—*grains sarcodique* of Vulpian—as centres of coagulation.

Action of reagents.—This has already been referred to in the consideration of the best modes of examining and preserving the plaques. Water reacts upon them as upon the colorless elements, causing a swelling of the protoplasm and a rapid production of the pale spheres already described. Dilute acid and saline solutions act in the same way. In three-fourths per cent. salt solution, or in the sodium sulphate solution for blood-counting, they retain their outlines and do not so rapidly coalesce and disintegrate. Dilute potash solution causes speedy dissolution.

The aniline dyes stain the plaques as other protoplasmic bodies, and Bizzozero's fluid has the advantage of tinting them and making them more distinct. In preparations by Ehrlich's method, the tint of the central portion of the plaques may be deeper than the periphery. Carmine appears to have no effect. For permanent preparations the dry method is the best, and they may be stained with hæmatoxylon, fuchsin, Bismarck-brown, or methyl-violet. The blood in osmic acid may be kept for some days if the cover-glass is carefully surrounded with paraffine. A solution of corrosive sublimate 1 to 1,000 is also suitable for their preservation.

The precise chemical composition of the plaques has not been determined, but from the similarity in most points of their reaction and behavior with dyes to the nuclei of cells we may suppose their composition to be of a similar nature.

The number.—The numeration of the plaques presents serious difficulties, on account of their extraordinary adhesiveness, and the numbers now given may be subject to revision when better methods are devised. In my own case the numbers range from 250,000 to 300,000 in the cubic millimetre; figures which correspond to those of Hayem. Full-blooded, plethoric individuals have rarely more than 250,000 per cubic millimetre. The variations in the same individual may be considerable during the day, and they seem increased after a full meal. Age has an important influence; in the infant and young child the number may be double that of the adult. In the new-born of all the mammals I have examined they are specially abundant. As age advances they seem again more numerous, particularly if the individual is weak and debilitated.

Until more extensive and more reliable counts are announced, we may say that the plaques in health number between 200,000 and 300,000, the ratio to the red being about 1 to 18 or 20, and to the white corpuscles 35 or 40 to 1. The numeration of the plaques is a much more tedious matter, and requires far more patience than counting the red and white corpuscles. Rapidity is essential to success. I find the *compte-globule* of Malassez rather more adapted than the Gowers apparatus, as the mixture can be more thoroughly and quickly made. The blood is got from a deep puncture and aspirated into the tube of the Potain mixer to the line, and then the Pacini's fluid or osmic acid is immediately drawn in. Frequently it will be found that, with the greatest care, the plaques have run together and the process must be repeated. It is essential, too, in the first aspiration of the blood, to reach the line at once; if the blood-column goes beyond, it must be discarded and a fresh attempt made, as the time lost in accurately adjusting the column would be sufficient to allow the plaques to coalesce.

The plaques in disease.—In health the plaques are relatively scanty, and they aggregate into such small, scattered groups that they do not necessarily excite the attention of the student, but every constant observer of the blood in states of disease must have marvelled again and again at the extraordinary number and size of the granule-masses met with in certain cases. Led away by their constancy and peculiar characters, writers have regarded them as specific and distinctive elements in some affections (leukæmia, phthisis). From the able and comprehensive paper of Riess to the more recent one of Afanassiew,[1] there have been very many observations on the frequency and significance of these bodies in disease, but we still lack careful and painstaking enumerations in the various acute and chronic diseases. A rough estimate of their increase or diminution may be made by anyone well accustomed to their observation, but for scientific accuracy the hæmocytometer must be used, and means must be devised to overcome the present serious source of error.

My own observations have been very numerous, and I have for years been in the habit of noting the paucity or abundance of these elements. In the absence, however, of systematic and reliable counts, the notes are not worth much. The general results I may state as follows:

1. The plaques are increased in all chronic wasting maladies—cachexiæ—with or without fever.

This is very evident by examining in rotation the various patients in a hospital ward. The debilitated individuals, the subjects of phthisis, cancer, or other chronic wasting diseases, present a marked increase. In phthisis the number per cubic millimetre may reach five hundred thousand or more, and the ratio of the plaques to the red may rise as high as 1 to 5.

2. In acute sthenic fevers the plaques are not increased in the early stages, but as the disease advances, and the patient becomes weaker and more debilitated, the increase is usually marked. This is well seen in typhoid fever, in which the number of plaques during the first week may not rise above normal, while in the third and fourth week there is usually a notable increase.

[1] Eberth und Schimmelbusch: Virchow's Archiv, 103, Heft i., 1886.
[2] Ranvier: Gaz. Méd. de Paris, 1873.

[1] Afanassiew: Deutches Archiv f. klin. Medicin, Bd. 35.

3. In the so-called blood diseases the number of the plaques is variable. Many observers have remarked the great numbers in certain cases of leukæmia, but in others the increase is not apparent. So, also, in lymphatic anæmia. In some cases of Hodgkin's disease I have seen the plaques in extraordinary numbers. In profound anæmia the plaques may be very scanty. I have long noted, in cases of pernicious anæmia, that the clusters of plaques may be almost absent, or much more scanty than in health.

Distribution of the plaques in animals.—So far as our present knowledge goes, the plaques are constant constituents of the blood in mammals, and, with the exception of slight variations in size, the general features are the same in the various orders. My observations on this point have not been extensive, but I can speak of their presence in the blood of the dog, cat, mouse, guinea-pig, rabbit, sheep, ox, horse, pig.

They also occur in the ovipara, and here they are nucleated. Kemp states that in the blood of oviparous animals there is a nucleated corpuscle which is physiologically analogous with the plaque in the blood of mammals, and which behaves like it when the blood is drawn.

Origin.—Various explanations have been given to account for the origin of the plaques, and Kemp enumerates no less than seven different views. Perhaps the most prevalent idea, particularly among clinical physicians, is that they result from the disintegration and degeneration of the blood-corpuscles, especially the leucocytes. This is really not unnatural, for the irregular clumps of plaques in blood examined in the ordinary way look very like—and, indeed, are—protoplasmic débris, but we know of no such process of rapid disintegration in the colorless corpuscles, which are remarkably stable elements, and even in their death and decomposition never, so far as I can make out, produce structures similar to the groups of plaques. The fact that the formation of the *granular débris*, as the groups of plaques are called, can be prevented by drawing the blood directly into a drop of osmic acid (or Pacini's fluid), in which the elements are fixed instantly, should be sufficient to convince the most sceptical; but if it does not, the study of the plaques in the new-born rat will satisfy, I think, the most obdurate. The abundance and large size of the groups of plaques in a blood-drop examined in the ordinary way, the ready demonstration of the individual elements in the blood-vessels of the subcutaneous tissue, and the identity of these with the corpuscles at the edges of the groups, and with those in the osmic acid drop, render the conclusion irresistible that we are dealing with something quite independent of the colorless corpuscle.

I am unaware of a single observation corroborative of the view that the plaques result in any way from the degeneration of the red corpuscles. We need not consider the views that the plaques represent fibrin particles, or are depositions of globulin.

A majority of observers regard the plaques as independent elements in the blood, others agree with Hayem that they are young red corpuscles—hæmatoblasts—and a further discussion of this point will be best considered in the next lecture, when I speak of the regeneration of the corpuscles.

Historical.—I do not propose to enter exhaustively into the literature of the blood-plaque. This has already been done very fully by several German observers, and quite recently by Kemp, whose paper on the "Studies from the Biological Laboratory of Johns Hopkins University" will be accessible to all American and English students. In my original paper I have also given pretty fully the older references. We may conveniently divide the work which has been done in this department into three periods. The first embraces the time prior to the publication of Hayem's researches in 1877. The masses had been observed frequently, and the corpuscles had been studied, notably by Donné, Zimmerman, and Max Schultze. In 1874 I demonstrated the corpuscular nature of the granule-masses, and showed that the bodies of which they were composed "were present as separate elements in the vessels, and showed no tendency to adhere together." In 1873 Ranvier[1] called attention to their possible association with fibrin formation. Riess and others had called attention to their increase in disease. The second period dates from the publication by Hayem, in 1877–78, of his researches, and to him really belongs the credit of establishing the histological position of these corpuscles as constant blood-elements. It is curious that his careful observations met with very slight recognition among physiologists. The interest in the question had, indeed, almost died out when, in 1882, Bizzozero, of Turin, published an exhaustive article in Virchow's *Archiv* upon the *Blutplattchen*, and their relation to fibrin formation. From this we date the third period, during which there have been already published eighteen or twenty essays, chiefly in Germany, and the most intense interest seems to have been aroused on the subject. The weight of histological evidence is strongly in favor of the views which I have here laid before you, but there still remains the greatest diversity of opinion as to the function of these bodies in blood development, and of their relation to the formation of fibrin, and upon these questions I shall have more to say in the second and third lectures.

Original Articles.

THE BENEFIT TO BE DERIVED FROM SYSTEMATIC WASHING OUT OF THE STOMACH, IN CASES OF GASTRIC DILATATION DUE TO HYPERTROPHIC OR CICATRICIAL STENOSIS OF THE PYLORUS.[2]

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ALTHOUGH Canstatt first recommended the frequent withdrawal of the accumulated fluid in the stomach by means of the stomach-pump, in cases in which the patient had lost the power of vomiting, its systematic use in cases of marked gastrectasia was first instituted by Kussmaul, in 1879. The results obtained by him were so favorable that this method of treatment at once obtained recognition, and of late years the washing out of the stomach by means of the stomach-pump or by the siphon process, has been successfully employed in the treatment not only of gastrectasia, but also of gastric affections of various kinds.

During the past year, three cases of extreme dilatation of the stomach from pyloric obstruction, have been treated in my wards at St. Luke's Hospital. The histories of Cases I. and II. illustrate the benefit which may be derived from systematic lavage of the stomach by means of the siphon process.

CASE I.—M. P——, female, aged thirty-nine. Admitted to hospital February 4, 1885.

A sister died of cancer of the breast; family history otherwise good. During a period of ten years, until the patient reached her thirtieth year, she suffered from frequent attacks (every few weeks) of violent epigastric pain, usually after meals, followed by vomiting of the contents of the stomach. The pain was only relieved by hypodermatic injections of morphine. There was never any blood in the vomited matter. During the past several years, she has been quite free from these attacks and, until a year ago, apparently enjoyed fair health. Her weight at this date was two hundred pounds. At about this time, she began to have frequent attacks of vomiting. At times, the vomiting occurred within a few minutes after the ingestion of a meal; again, an attack

[1] Ranvier: Gaz. Méd. de Paris, 1878.
[2] Read before the Practitioners' Society, March 5, 1886.

would occur only once in two or three days, when as much as "several pints" of partially digested food was vomited. At first, there was an absence of other symptoms; gradually, however, more or less constant nausea and intense burning pain in the epigastrium supervened. The patient rapidly emaciated, losing one hundred pounds in weight within the year, lost strength, and was finally confined to her bed. There was obstinate constipation. On admission to hospital, the patient was extremely weak, anæmic, and emaciated. There was anorexia, a thickly-coated tongue, and constipation. There was also constant nausea, foul-smelling eructations, an intense burning sensation and pain in the epigastrium. The temperature was normal; the urine was free from albumen and sugar.

Physical examination revealed a marked depression just below the ensiform cartilage and beyond, marked distention of the abdomen, with distinctly-outlined borders; the lower border reached a point three inches below the umbilicus in the median line, and extended thence obliquely to the extreme limit of the left iliac region.

There was marked tympanitic resonance over nearly the whole area of the distention, and succussion on palpation. Distinct undulatory movements, passing from left to right, were visible. There was slight enlargement of the inguinal glands. Examination of the heart, lungs, liver, and spleen gave negative results.

Two days after admission, no vomiting having occurred in the interval, the patient vomited two quarts of semi-fluid matter, containing fragments of meat eaten *previous* to admission.

After complete evacuation of the contents of the stomach by vomiting and by means of the stomach-tube, a small tumor, the size of an almond, could be felt distinctly, one inch to the right of the median line and two and one-fourth inches above the umbilicus. It was of firm consistence, was easily movable within narrow limits, and readily slipped from under the finger. It was found that the stomach easily retained ninety-two ounces of fluid, introduced by means of the œsophageal tube.

A mechanical dilatation of the stomach, from pyloric obstruction of a doubtful nature, evidently existed. A systematic daily washing out of the stomach by the siphon[1], and careful feeding, were at once instituted.

The method adopted was to wash out the stomach thoroughly with a weak solution of boracic acid, early each day, before food was taken. A pint of peptonized milk was then given by the tube or mouth. A similar quantity of milk was given at varying intervals during the day, and at first lavage again was regularly employed in the afternoon. The rule was adopted, also, to evacuate the contents of the stomach by means of the tube, *whenever* marked epigastric distress followed a "feeding." The relief of the burning sensation and epigastric pain, and of the vomiting, was rapid and marked. Broths and beef-solutions were gradually added to the diet. Aside, however, from the alleviation of the above symptoms, little progress was made during the succeeding five weeks. The digestive power of the stomach evidently was seriously impaired. The daily lavage showed the presence of foul-smelling, undigested matter in the fluids withdrawn from the stomach. At the end of two months distinct improvement in this respect was observed, and the patient began to increase in weight. On February 4th, her weight was 99 pounds; on April 7th, 102 pounds; April 21st, 103 pounds. On April 24th, there was a *spontaneous* evacuation of the bowels, the first for a year. From this date, natural movements, without the use of cathartics or enemata, occurred with more or less regularity. On May 5th, the weight was 108½ pounds; May 12th, 110 pounds; May 19th, 112 pounds. On May 20th a small amount of meat was added to the diet, but given only after thorough lavage. It apparently was easily digested, and from this date it was allowed daily. On May 26th the patient's weight was 120 pounds; June 9th, 124½ pounds; June 16th, 127 pounds. On May 27th a small amount of uncooked rice was given to the patient, and three days afterward a portion of it, at least, was withdrawn from the stomach by means of the siphon. On several occasions during June, lavage was discontinued temporarily, by my directions. Epigastric distress and vomiting at once recurred, and the patient earnestly begged that the daily washing out of the stomach might be renewed. During the period of the employment of lavage, the reaction of the urine passed at successive periods, during the twenty-four hours, was tested,[1] and found to be constantly alkaline. The patient, while under observation, suffered from time to time from tetanic spasms of the calves of the legs.

Kussmaul explains both the muscular spasms and the epileptiform convulsions which not infrequently occur in cases of dilatation of the stomach on the ground that there is a deficient absorption of fluids by the stomach in this condition, through which an abnormal dryness of the muscular and nervous tissues is induced (Ziemssen's "Cyclopæd. of Med.," *loc. cit.*). Bouchard refers the symptom to an auto-infection by toxic products of fermentative and putrefactive changes in the stomach (article on "Dilatation of the Stomach," by W. H. Welch; Pepper's "System of Medicine," vol. ii., p. 596).

The marked improvement in the patient's condition during the above period of four months, and the absence of appreciable growth of the pyloric tumor, pointed to the non-malignant character of the obstruction. The patient was unable to use the stomach-tube herself, yet without its daily use a considerable prolongation of life seemed impossible. She was most anxious that operative interference, which afforded a possibility of permanent relief, should be attempted. The case seemed a suitable one for Loreta's operation of digital dilatation of the pylorus, and after a consultation of the physicians and surgeons of the hospital, it was determined upon. The result has been reported elsewhere by my colleague, Dr. McBurney.[2] The pyloric obstruction and tumor were found to be due to a purely hypertrophic process, affecting the submucous and muscular tissues of the pylorus.

CASE II.—S. J——, female, aged fifty-nine, admitted to hospital April 9, 1885. The patient had previously been an inmate of the hospital for a brief period, in the winter of 1883. She at that time gave the following history: From fourteen to nineteen years of age, she suffered from occasional attacks of hæmatemesis. At the age of nineteen, after severe exertion, she vomited a large amount of blood. Again, twenty years ago, she vomited almost daily, for a year, black grumous material, in varying quantities. In the early part of 1881, she had a severe hæmatemesis. She was admitted to hospital in December, 1883, much emaciated, complaining of severe epigastric pain, and vomiting after food. The stomach was found to be greatly dilated, and there were the physical signs of slight changes at the apex of the right lung.

She was discharged after a short stay in the hospital. She has continued to vomit since this date, at least once daily, and has lived almost wholly upon a milk and fish diet. Last July, she had an hæmoptysis, and during the past winter her cough has been troublesome. She has suffered from almost constant epigastric pain, at times so severe as to require hypodermatic injections of morphine. Her bowels have been obstinately constipated for more than a year, never being moved without the use of cathartics. For the past six weeks she has been con-

[1] The tubes used for siphonage were the French Faucher and one made by Tiemann, of New York. The French tube and funnel are made in one piece. Both tubes are of soft, flexible red rubber. An irrigator was attached to one end of the tube for greater convenience in use, and a Y-shaped glass tube was connected by one arm with the tube running to the irrigator, and by the other with a discharging tube.

[1] An alkaline reaction of the urine during the treatment of gastrectasia by lavage has been noted by many observers. It has been suggested by Quincke that this mode of treatment diminishes the absorption of the gastric acids, and thus withdraws an important factor in the acidification of the urine (Ziemssen's Cyclopæd. of Medicine, vol. vii., p. 318).

[2] New York Medical Journal, January 16, 1886.

fined to her bed. On admission, the patient was greatly emaciated, weak, and anæmic. The tongue was thickly coated; there was anorexia, great thirst, and constipation. She complained of constant distress and pain in the epigastrium, and of foul-smelling eructations. The urine was scanty; alkaline in reaction; it contained neither albumen nor sugar.

Physical examination revealed a localized distention of the abdomen, occupying the umbilical, hypogastric, and left lumbar regions. The lower border of the prominence reached a point two inches below a line drawn through the anterior superior spinous processes of the ilia. There was a resonant percussion note over the greater portion of the above area and succussion on palpation. On complete evacuation of the contents of the stomach by means of the siphon, a tumor of about the size of an almond could be distinctly felt in the epigastrium, two and one-fourth inches above the umbilicus in the median line. It was immovable and of firm consistence. There was sensitiveness over its site, on firm pressure. It was found that the stomach could easily receive and retain one hundred and fifteen ounces of fluid. Consolidation, with areas of softening, was found at the apex of the right lung. Examination of the remaining organs was negative. There was no enlargement of the superficial glands. The patient's weight was eighty-seven pounds. The dilatation of the stomach was evidently due to pyloric obstruction, and a cicatricial or hypertrophic stenosis was believed to exist. An exactly similar method of treatment to that pursued in the previous case (daily lavage and careful feeding) was instituted. On April 14th there was no vomiting, and for the first time for many months morphine was not required. The fluids withdrawn from the stomach continued to be extremely offensive for the first month after daily lavage was adopted; the eructations, the epigastric distress and pain, and the vomiting, however, were greatly relieved. The vomiting only very occasionally recurred. From May 8th, there were daily spontaneous movements of the bowels. On May 16th, a little toast was allowed for lunch. On May 19th the patient's weight was 88½ pounds; on the 20th, meat, after lavage, was ordered. It was found that it could be taken without distress. May 26th, the weight was 90 pounds; June 2d, 91 pounds; June 9th, 93 pounds; June 23d, 99 pounds. A gain of 12 pounds, in the presence of a progressing tubercular affection of the lungs, had been obtained in a period of a little less than three months. The necessity and efficacy of the method of treatment had been demonstrated; life could be prolonged, however, only by its continuous employment, and this was found to be impossible outside of the hospital. The patient earnestly begged that a surgical operation should be attempted, and after consultation with the surgeons of the hospital, Loreta's operation was determined upon. Dr. McBurney also has reported the subsequent history of this case.[1] The cause of the pyloric stenosis is one of great interest, as demonstrating a condition which must be of very unusual occurrence. The nature of the pyloric tumor is also of interest. The following report is taken from Dr. McBurney's notes of the case:

"On opening the stomach, an old and apparently healed ulcer was felt and seen, directly opposite the incision. . . This ulcer was about an inch in diameter, and its largely-thickened edge formed the tumor which had been felt before the operation. . . The base of this ulcer was firmly adherent to the pancreas behind, and the contraction of cicatrization had given the stomach an hour-glass form. . . Even then it was difficult to find the pyloric orifice. . . After a search of some minutes, I found it at the upper border of the ulcer, close to the latter, but not involved in it, and directed upward. . . The posterior edge of the pylorus had been so firmly drawn by the cicatrization of the ulcer that, although it was easy, by lifting the anterior edge, to pass the finger through it, yet when the anterior edge was not so lifted, the orifice was completely closed."

Several practical points are suggested by a study of the histories of these cases. They are, (1) that systematic daily lavage of the stomach is often capable, not only of relieving distressing symptoms, but also of, partially at least, restoring the digestive power when seriously impaired, in cases of gastric dilatation due to hypertrophic or cicatricial stenosis of the pylorus; (2) that improvement in the latter respect is frequently attainable only after weeks of persistent treatment;[1] (3) that considerable prolongation of life with the existence of a pyloric stenosis of the degree described above is improbable, in the absence, either of the continued employment of this mode of treatment, or of surgical interference.

Case III. was that of a woman, aged twenty-eight, who died in hospital previous to the admission of those whose histories have been related. Her statements in regard to her health, previous to a few months before admission, were contradictory and unsatisfactory. On admission, January, 1885, she stated that her present symptoms first appeared three months ago. At about this date, she began to be troubled with epigastric distress, occasional vomiting, and abdominal distention. For the past month, she has vomited daily. Frequently, food taken on one day has been distinguishable in the vomited matter of the next. She was greatly emaciated, weak, and distinctly cachectic. The tongue was thickly coated, there was intense thirst, anorexia and obstinate constipation. She suffered greatly from eructations, epigastric distress and pain. The temperature was normal; the urine, acid in reaction, sp. gr. 1.024; it contained neither albumen nor sugar. On examination, the outlines of the stomach were distinctly visible through the abdominal walls. The lower border reached a point considerably below the umbilicus, in the median line. There was marked succussion on palpation, and the peristaltic movements of the stomach, passing from left to right, were plainly discernible. A tumor, the size of an English walnut, was detected one inch above the umbilicus, in the median line. It was of firm consistence, and was easily movable within narrow limits.

Examination of the heart, liver, and spleen, gave negative results. There was no enlargement of the superficial glands.

The presence of a marked cachexia, the comparatively recent date of the occurrence of abdominal symptoms, the existence of a presumably pyloric tumor, warranted, it seemed to me, the diagnosis of malignant disease. Palliative treatment only, with the irregular employment of lavage, was therefore prescribed. The emaciation and weakness rapidly increased; the patient continued to suffer from epigastric distress and pain, and vomiting, and finally died, without the occurrence of other than the above symptoms, seven weeks after admission.

Examination after death showed that, with the exception of small areas of catarrhal pneumonia in the lower lobe of the right lung, and slight changes in the connective tissue of the liver, the morbid changes were confined to the stomach. The stomach was enormously dilated. The pylorus was greatly thickened, and its orifice barely admitted the tip of the little finger.

A large cicatrix, two inches in diameter and of regular outline, was found in the immediate vicinity of the pylorus.

The pyloric tumor was found, on microscopical examination, to consist of an increase in the normal elements of the muscular and submucous coats of the pylorus.

The results of the autopsy illustrate the difficulty of positively differentiating dilatation of the stomach, due to hypertrophic or cicatricial pyloric stenosis, from that resulting from malignant disease of the pylorus.

[1] New York Medical Journal, January 16, 1886.

[1] At the date of the operation, the fluids withdrawn from the stomach and allowed to stand separated into the layers which have been considered to be indicative of a physiological performance of the digestive function.

The obstruction evidently had existed for a long period, sufficiently long to seriously impair the digestive functions of the stomach. A cachexia was produced, which in no respect was distinguishable from that accompanying malignant disease. I am inclined to believe that if the true nature of the affection had been recognized and *systematic* lavage of the stomach employed, as in the previous cases, a very considerable prolongation of life might have been attained. The case suggested to me a different method of treatment, in the presence of similar symptoms.

Cases I. and II. are examples of a pathological process, which I believe is of more common occurrence than is generally recognized.

In Case I. the most careful examination of the stomach failed to reveal the presence either of an ulcer or a cicatrix, and it properly may be considered, therefore, as one of purely hypertrophic pyloric stenosis.

In Case III. the cicatrization of an old ulcer may be regarded as a factor in the pathogenesis of the hypertrophy of the tissues of the pylorus.

Hypertrophic stenosis of the pylorus has been described by various observers, particularly by Lebert[1] and Habershon.[2] The latter considers it to be due to a fibroid degeneration of the "pyloric valve," affecting its mucous and submucous coats, usually the latter, associated with a compensatory hypertrophy of the muscular coat of the pylorus.

In conclusion, I would add a word in regard to the means which I have found most efficient in determining the size of the stomach in cases of suspected dilatation. Frerichs' method of determining its contours by artificial distention, through the generation within the stomach of carbonic acid gas (introducing bicarbonate of sodium twenty to thirty grains, and tartaric acid fifteen to twenty grains, in solution), has often failed in my hands. Auscultatory percussion of the stomach, artificially distended by the above means, has given somewhat more satisfactory results.

Leube's method of sounding, which consists in introducing a tube into the stomach, and attempting to feel it with, or catch it between, the fingers through the abdominal walls after insertion, also has proved unsatisfactory. A tube sufficiently soft to be unattended with possible risk in the necessary manipulation, permits of a coiling upon itself, which militates against a correct estimation of the degree of dilatation.

Penzoldt's modification of Piorry's method, I have found both safe and comparatively accurate in application.

It consists in withdrawing the fluids from the stomach by means of the stomach-tube, thus causing dulness to disappear; and in then making the latter reappear by injecting more fluid. "By noting the lower limit of dulness thus produced, the position of the lower border of the stomach may be determined."

I desire to express my indebtedness to the gentlemen of the medical house-staff of the hospital, Drs. Sherman, Tieman, and Densch, for their assistance in carrying out the method of treatment described.

THE CURE OF TUBERCULOSIS.—A subscription for the purpose of encouraging researches in the therapeutics of tuberculosis has been opened by the *Gazette Hebdomadaire de Médecine et de Chirurgie*, of Paris. The idea of a subscription for this purpose was suggested by M. Verneuil, and in a few days the sum of over four thousand francs was raised.

VENICE TURPENTINE IN CHRONIC POSTERIOR GONORRHŒA is highly recommended by the editor of *The American Practitioner and News*. It should be given in large doses.

[1] Lebert: Die Krankh. d. Magens. Tübingen, 1878.
[2] Habershon: On Diseases of the Abdomen. Second American edition. 1879. Page 178.

AN ANALYSIS OF SEVENTY-SEVEN CASES OF TRACHEOTOMY.

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IN the year 1885 tracheotomy was done seventy-seven times for pseudo-membranous laryngitis, at the Boston City Hospital. Of these cases 20 recovered and 57 died; 25 died with septic symptoms, and 26 with symptoms of extension of membrane to the trachea and bronchi, 4 died of heart failure during or after operation, and 1 each of pneumonia and peritonitis. This classification of the causes of death is of course purely arbitrary; when a child died with symptoms of strangulation the case was set down as dying of extension. When septic symptoms and stupidity were predominant and the breathing was not labored the death was classed as septicæmia. The two divisions often overlapped markedly. Of the four cases of heart-failure, one, not anæsthetized, died before the trachea was opened, one was practically dead before operation, and the other two, both feeble children, died, one during and the other just after a simple and not markedly bloody operation. No one of these four children was anæsthetized. They were all between two and three years old.

The cases put down as septic died very much more quickly after operation than did the extension cases. The twenty-five septic cases lived, on the average, forty-eight hours while the twenty-six extension cases averaged eighty-one hours after operation.

The ages of the children ran from nine months to two years, but the bulk of the cases lay between two and seven years. The youngest recoveries were two children fifteen months old, who both nursed throughout their illness. The recoveries and deaths were quite equally distributed among the children of all ages.

A very bad class of cases comes to the hospital; the majority are sent in only as a last resort; some are brought in *in extremis*, and one or two died before tracheotomy could be done. When the parents desired it, and as a means of euthanasia, the operation was done even in the most hopeless cases. Twelve or more of them were of that very offensive sort that is accompanied by gray or greenish membrane in the throat and an intolerable odor, with, of course, much sepsis. With one exception these all died. The majority of the children were brought during the first or second day of their dyspnœa. In forty-four cases the operation was performed on the first day of the croup, and in sixteen on the second. In no case was the operation done later than the third day. The average time of operation was the same in the cases that died and the cases that recovered—thirty-two hours after the beginning of the croup. Croup supervened on the diphtheria from the second to the tenth day of the disease, averaging the sixth. In the cases that recovered the operation was performed on the sixth day of the disease, on the average; in both extension and septicæmia cases the average day of operation was between the fourth and fifth. That is to say, in favorable cases the croup did not come on so rapidly as in the cases that died. In the treatment no delicate distinction between croup and diphtheria was attempted; they were all classed and treated as diphtheria, and most of them presented unmistakable signs of it. In forty-eight of them diphtheritic membrane was seen in the pharynx by some of the hospital staff. In sixteen no examination was noted; in many of them none was made on account of the haste or the child's bad condition. In thirteen the child's throat was examined and no membrane was seen. Nevertheless several of these children showed marked signs of diphtheria; one gave post-mortem evidence of it in the form of a septicæmia, two had every sign of it except pharyngeal membrane, another had been exposed to it in the family, etc. Setting aside four of these thirteen who certainly had diphtheria, we have nine cases

where the diagnosis of diphtheria could not be made. Four of these nine cases recovered.

The operation done was ordinarily the high one, and anæsthesia was not used in more than one-half of the cases. Ordinarily, without it there was but little suffering, as the child was stupefied by the lack of oxygen. Sometimes the operation seemed painful throughout, and sometimes only the first cuts caused suffering. Ether invariably produced spasm and more labored breathing; chloroform was readily taken, and excited no spasm. After the use of either anæsthetic, and especially ether, there was apt to be a marked collapse after the operation. No child died in this condition, but only because they were carefully watched and strongly stimulated.

As to tracheotomy as a means of euthanasia, where septicæmia prevailed the death was easy enough and a state of stupidity preceded the end by many hours, but in every one of the twenty-six extension cases the death was preceded by gradually increasing dyspnœa, which became, in many cases, frightful to witness. The suffocation which comes before tracheotomy, seems to be of a rapid sort, which soon stupefies the child by its intensity, and makes the end a comparatively painless one; but the dyspnœa which comes after tracheotomy, as an accompaniment of the extension of membrane, is so gradual an affair that it reaches a much more acute stage before it stupefies the child. Unless septicæmic, the child is keenly alive to its suffering; cyanosis and retraction of the soft parts of the chest come on, the discharge from the tube is suppressed, and the breathing whistling. Restlessness and much suffering are only too apparent. The condition of affairs grows worse until the child dies in a paroxysm of dyspnœa, or, after hours of acute suffering, becomes comatose. Tracheotomy is not a means of euthanasia in cases that die by extension of membrane.

Albumen was present in the urine of nearly all the bad cases that were examined. The investigation of this point was very unsatisfactory, as it was very difficult to collect the urine of such small and such sick children. The urine was examined in 35 cases; 28 of these had from one-fourth to one-half per cent. of albumen. When it could be watched, it appeared toward the close of the first week of the disease, increased for a week or ten days, and in the course of a fortnight more it disappeared. It seemed to have no particular significance, and was equally distributed among all three classes of cases, except that it was constantly present in large amounts in bad septic cases.

More or less enlargement of the superficial cervical glands was noted in all but five cases; this varied from a few lumps to a neck as large around as the head. These large necks accompanied only very septic cases, and usually foul ones. A progressive enlargement of the neck was one of the worst possible prognostic signs, and, with the exception of one case, there was no recovery where the neck reached any considerable size. This one case was as septic and foul and hopeless as any in the series, and the swelling of the neck was simply enormous; but from the fifth day improvement was steady.

Nasal discharge was very common and without any especial significance. It is noted as having been present in fifty-five cases, and was equally distributed among all classes; nose-bleeding was present in six fatal cases. The character of the discharge from the tube was a most interesting indication of a case's progress. At first it was always bloody, and ordinarily loose. In twenty-four hours, the blood would disappear and the discharge would be whitish or yellowish, and thick or loose, but so long as it was free and not sticky it was favorable. The discharge was apt to become bloody at any time in any case, and it seemed to have no significance. Blood appeared as late as the fifth day in favorable cases, and in any case was apt to disappear and return again, and sometimes be present for one or two days at a time. But marked diminution in the amount of the discharge was a most ominous sign. The discharge then became sticky or gummy, and in many cases complete suppression of the discharge followed, preceding death. In only four cases that recovered, all bad ones, did the discharge at any time become gummy, and then only for a short time. In the other favorable cases, the discharge was free throughout.

In fatal cases a gummy discharge was generally present as a precursor of death; it appeared ordinarily within twenty-four to forty-eight hours of the end, sometimes coming temporarily a day or so earlier. This suppression of the discharge accompanied both septicæmia and extension cases, but in the latter dried pellets of mucus were apt to be present in the trachea, and to cause much choking and sometimes death. The condition of the trachea was seen, post-mortem, in two cases of this sort, and both showed fibrinous bronchitis and laryngitis, and fibrino-purulent bronchitis of the smaller tubes, with a mild degree of septicæmia, shown by cloudy swelling of the other organs. In a word, the drying of the discharge is one of the worst prognostic signs. The temperature, probably, possessed no more than its ordinary prognostic value in acute septic diseases. It went up to 107° in 3 fatal cases, and in 34 cases where it reached 104° there were only 2 recoveries. No child recovered where the temperature reached 105°. A sudden rise of temperature after operation meant nothing, and was noted in several favorable and several fatal cases. A sudden rise, however, on the third, fourth, or fifth day was a very serious matter, and, with one exception (when it rose 4° on the third day), it meant death. A later sharp rise was noted in four favorable cases in the second week, but it proved only temporary.

There was in no case what appeared to be distinctly diphtheria of the wound, though there were plenty of ugly-looking eroded holes left after the removal of the tube, and three or four cases of cellulitis or erysipelas of the neck. They had no significance. The treatment proved a very interesting part of the cases. A certain part of it was routine, while a certain part was adapted to each case. Every child was taken from the operating-table to a room where the steam-pipes had been tapped, and a cloud of steam was played directly onto the child. Special nurses were detailed to watch the cases night and day, whose duty it was to keep the tube clear by feathers and to remove and clean the inner tube every few hours.

The diet of the cases was milk *ad libitum* and some stimulant, ordinarily brandy; either one or the other of these was given every hour, and in some cases the children were encouraged to take broth and eggnog. The steam was continued until the wound was nearly closed, and the tube was removed on the fifth, sixth, or seventh day, without any preliminary testing. Only two cases had to wear a tube over seven days, and both of these had to wear it for months. Brandy was given in two-hourly doses, and from one to four ounces a day was readily taken. The number of cases is, of course, too small to furnish any very valuable statistics as to the relative value of different treatments, but it is not without significance that in cases treated with corrosive sublimate or calomel the percentage of recoveries was thirty-five, while only twelve per cent. recovered with non-mercurial treatment. The dose of corrosive sublimate was one-sixtieth of a grain every two hours, or every hour in an older child; salivation often followed its use on the second or third day, but was never troublesome after the mercury was stopped. Calomel was more apt to cause diarrhœa, and was given in quarter-grain doses every two or three hours. When diarrhœa or salivation began the mercurial was at once stopped.

The children took on the average from twenty to forty ounces of milk a day; thirty was a fair amount and below twenty was very small. Without regard to age, the children who took the large amounts of milk were the ones who got well. All the recoveries but three were in children who took between thirty or forty ounces of milk daily. In children who took over thirty ounces, the percentage of recoveries was fifty, while in those who took

twenty-five ounces or less, the percentage was only ten. Speaking roughly, the fact that a child was taking its nourishment well was encouraging.

In general, any prognosis, unless the case is a perfectly hopeless one, before the second or third day is largely guess-work. At that time of extremely unfavorable import are progressive glandular enlargement, gummy, or suppressed discharge, and the fact that the child takes less than twenty-five ounces of milk daily. The most encouragement that we can have is an absence of these ominous symptoms, along with a fair general condition of the child.

THE PALLIATIVE OR MECHANICAL TREATMENT OF HERNIA, WITH ILLUSTRATIVE CASES.[1]

With a Brief Report on Repeated Injections of Oak-Bark Without Confinement to Bed.

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Through all ages we find voluminous writings on the radical cure of hernia. Every age has had its vaunted cure; still, it remains a fact which we must all recognize, that of all adults suffering from hernia, very few ever obtain a complete and permanent cure. In view of this fact, is it not time that we study those means which shall give the greatest relief to the greatest numbers? that we should strive to secure the afflicted against the dangers which may arise from their hernias, and obtain the greatest amount of improvement possible, rather than endanger their lives in a vain attempt to produce a radical cure?

That very great good shall come from the study of the subject in this light, my past experience proves to me beyond the slightest doubt.

The adjustment of a splint to an insignificant fracture receives the surgeon's most careful personal attention, but in a case of hernia the entire responsibility is transferred by that same surgeon to a mechanic wholly ignorant of the first principles which should govern its proper treatment.

If we attempt to inform ourselves upon this subject by its literature, we will find that there has been the same neglect in the past as now exists. It is almost barren of practical instructions as to how the palliative treatment of hernia should be conducted. If we turn to those books in which we would naturally expect to find something as a guide, we are only told to "put on a good-fitting truss." Just what a good-fitting truss is, we are not informed, and as to the management of the case after such a truss has been applied, it never receives the least consideration.

Necessity, therefore, must be my excuse if in opening this discussion I draw almost wholly upon my own personal experience. The palliative treatment of hernia does not consist of mere truss-fitting; the selection and adaptation of an appliance is only preliminary to the proper treatment of the case. The common habit of prescribing a truss and discharging the patient, cannot be too strongly condemned.

The condition of *every person* suffering from hernia can be improved, but that improvement cannot be accomplished without intelligent care and attention. The patient, after having been supplied with a suitable appliance, must be instructed respecting its correct use, and, as his case improves, the instrument must be altered to meet these changed requirements.

Before speaking of the selection of appliances for special cases, it might be well to say a few words regarding trusses in general; and as there are at the present time fully forty varieties manufactured, these remarks must be generalized.

I am led, from experience, to condemn all trusses without springs, consisting of elastic or inelastic webbing about the body, held in place by perineal bands. Occasionally, for night use, they serve a good purpose, but for day wear I consider them a "delusion and a snare." If the body was perfectly round, they might act well; but being oval, with the most depressed portion in the inguinal region, it is self-evident that the greatest amount of pressure will be exerted where not needed—that is, on each hip. They are a delusion, because they keep the hernia out of sight for a time, but as they leave the upper part of the inguinal canal unprotected, it is quite liable to increase in size until it becomes uncontrollable. The perineal band is constantly drawing the pad down against, or over, the pubic bone.

I object also to all trusses with springs which are applied from the same side upon which the hernia exists. This includes all trusses commonly known as French or German; it includes a large portion of all that are sold throughout the country; it includes what our instrument-makers here call their *best* truss. Best merely because their great-grandfathers made them after the same pattern.

They would have been consigned to oblivion long ago, had the mechanical treatment of hernia been in the hands of professional men. So far as I have ever seen, they cannot be applied so that they will not act as a compress over the pubic bone. I am equally opposed to any truss that has an arm descending from the spring, upon which the pad is carried. A pad so placed cannot be retained high up over the internal ring, and I am positive that to secure the best possible results from mechanical means, that the closing of the upper portion of the canal is an absolute necessity.

As a covering for truss springs and for pads, I have found nothing equal, for cleanliness and durability, to hard rubber. I cannot imagine a better substance, and I know of nothing that is so well borne by the skin.

Before saying anything regarding the truss that I should select for a given case, I desire to speak briefly of the method of fitting which I have followed for the past four or five years; and for so doing, perhaps, a word of apology is needed, as that method has already been published. As its importance may have been overlooked by many at the time, and as I believe it to be the very key which places truss-fitting within the reach of every practitioner, I may be pardoned for again mentioning it.

Any physician who undertakes to treat his cases of hernia will soon discover that, by the ordinary method, it is a very difficult task to shape a steel spring so that it shall be accurately adapted to all irregularities of the form. This fact has prevented many physicians from making more than one or two attempts at truss-fitting.

The method referred to consists in securing a diagram of the outlines of the pelvis. This is traced upon paper, and the spring to be worn is shaped to correspond exactly with this line.

The diagram is secured by means of a lead tape which is moulded to the form in the following manner: One end is placed over the region of the internal ring (for example, we will say of the right side), from this point it crosses the front of the abdomen, around the left hip, to the centre of the back or beyond.

Having moulded this carefully to the form, it is slipped from the body and placed upon a sheet of paper of suitable size.

A pencil tracing of the inner surface of this is made, and the shape of the opposite side taken in the same manner—which, when added to the first, will give the outlines of the pelvis in a fairly accurate manner, as shown in the diagram exhibited.

Any spring that it is desirable to use, can be bent to conform to this line, making, of course, due allowance for pressure. If the spring is covered with leather or celluloid, it may be bent without any preparation. If covered with hard rubber, it must be thoroughly warmed by passing through the flame of a spirit-lamp or gas-jet, before such bending is done.

[1] Read before the Surgical Section of the New York Academy of Medicine, March 8, 1886.

In oblique inguinal hernia of small size I usually select a light spring, which shall cross the front of the abdomen, and around the hip opposite the hernia. I prefer a small convex pad, which shall press just below the internal ring; the object being to close the canal at its origin. It is a very common mistake, even for physicians, to place a truss directly over the external ring. Truss-sellers and instrument-makers always place it there, because there is where they see the swelling, and that is as far as their information extends.

A truss which has been constantly growing in favor with me is a modification of the Hood truss, which supports both sides, even though only one hernia exist. I have had these constructed in several different ways, as you will see on those patients whom I shall show you to-night.

The difference in construction relates more to the strength than to any change in principle. Where the additional expense to the patient is not an important consideration, I think it is always best to use a truss which shall protect both sides. It is quite certain that strong pressure upon one side tends to crowd the abdominal contents toward the other, which produces an unnatural strain upon that inguinal region.

I sometimes use the English pattern cross-body spring, with ball-and-socket pad, which I like very well. I prefer it, however, with a stationary pad, having found that, as a rule, so-called self-adjusting pads shift out of position easier than those that are fastened to the spring. The after-management of an ordinary case of inguinal hernia is, after having it under perfect control for two or three months, to reduce the pressure gradually as the case improves, getting the truss off entirely, if a complete recovery has taken place.

As a class, large scrotal hernias that are reducible are very badly treated. The so-called scrotal trusses of the instrument-makers are a striking illustration of the ignorance displayed in the treatment of these cases.

That they require a very strong truss is frequently true; but that they require a large pad because the hernia is large, is an absurdity.

I commonly select a truss known in the trade as the radical-cure truss, the peculiarity of which consists in the construction of the pad, which has a small, prominent, and hard centre, surrounded by a ring of softer material. This I use until the case is under control, and then exchange for either the Hood or some lighter pattern.

Owing to the shortening of the canal in these old and neglected cases, it is necessary at first that the pad should be placed immediately above the pubic bone, but after the hernia has been retained for a few months, the canal will resume its normal length to such an extent that the centre of pad-pressure may be raised an inch or more. One case briefly stated will suffice to illustrate this class:

A man, sixty-two years of age, was sent to me by the late Dr. Post, with a note saying that he considered the case beyond relief by mechanical means, but to do whatever I could for him, and, if unsuccessful, return him for an operation.

The protrusion was twenty-five inches in circumference, and hung down from the body ten inches. It was on the left side, and had existed for about eight years, without having received any attention. The man was almost wholly disabled for ordinary duties and compelled to abandon his work.

After some difficulty the mass was almost wholly reduced, but the most powerful spring would not retain it for a moment when on his feet, nor for any length of time when in the recumbent position. The man was put to bed for a week or ten days, and the hernia finally brought under control.

The patient is now here for examination. The truss at present worn is of the Hood pattern, which I have recently applied, as I found that he was developing another hernia on the opposite side.

The hernia slips down at times, even now; but there is very great improvement over his previous condition, and he has been enabled to return to his work.

There is one point in connection with this case which I wish to call attention to. When the case came under my care there was a portion of omentum which was not reducible. It was firmly adherent. This has to a great extent disappeared; but I think that those who examine the case will have no trouble in finding the small remaining portion. I call attention to this fact to show that omentum remaining in the scrotum will gradually disappear under pressure of a truss over its neck.

Large hernias should be supported at night as well as by day, but not by the same truss. I sometimes use the elastic truss for this purpose, but more frequently a cushioned, light spring truss. I also present for your examination a gentleman (sent to me by Dr. Bradshaw) who was disqualified for business pursuits by two extreme scrotal hernias. He had tried many things and been the victim of the rupture quacks. In his case the Hood truss had proven very successful. In ordinary examinations it is the custom of many surgeons to pronounce irreducible any hernia that cannot be returned to the abdominal cavity after the use of taxis for ten or fifteen minutes, and the patient is informed that in an operation lies his only hope of relief.

That relief can be afforded these cases, in many instances, without an operation, I have proven to my own satisfaction a number of times, by converting them into reducible hernias, which were controllable by means of a truss. I will cite one case for illustration, and the man is here for examination:

Dr. M. H. Williams sent to me, at the New York Polyclinic, a man about forty years of age, with a very large scrotal hernia, which had existed four years. A truss had never been worn, and not until recently had his hernia given him any trouble.

Of late, symptoms of strangulation had frequently occurred. The bowel contained in the protruding mass was easily reduced, but the greater bulk of the tumor, omentum, appeared firmly adherent, and resisted persistent efforts at reduction.

A truss was adjusted which made strong pressure over the neck of the tumor, and a systematic course of manipulation, which I always adopt in similar cases, was begun. The patient was instructed in making taxis, and was asked to resort to it every night and morning for from fifteen to twenty minutes, while in the recumbent position.

At the end of two weeks the tumor had softened considerably, and before the expiration of one month the patient came to me with his hernia completely reduced. He had worn a truss during the entire time. The case is here for examination. Also another similar one, which is undergoing the same treatment, wherein the hernia has not as yet been reduced, but improvement is already noticeable.

In this manner I have succeeded in reducing four hernias, and by continued pressure of a truss pad over the neck of the tumor I have seen the gradual improvement of several others.

Hernia complicated by a retained or undeveloped testicle is of far more frequent occurrence than generally supposed.

During the past two years I have met with not less than ten such cases, and their frequent mismanagement leads me to speak of them here.

In infancy the delayed descent of the testicle is not uncommonly mistaken for hernia.

Within the past two weeks an infant of six months was brought to my clinic with a truss over a testicle which had just escaped at the external ring. The tumor had been noticed, and the family physician had pronounced it hernia, and sent it to a well-known instrument-maker. The truss being worn was strong enough to retain a large hernia.

Had the use of this truss been continued the testicle would have been kept within the canal, and when the child began to walk a hernia would have developed.

A practising physician of this city came to me, eighteen months since, with left inguinal hernia and a partially developed testicle which could be carried into the canal, where it had been kept for years by the truss worn.

By means of a light truss with a small pad placed just below the internal ring the hernia was perfectly retained, and the testicle was allowed to come outside of the external ring.

I was called to Brooklyn to see a young man, aged twenty-two, supposed to be suffering from strangulated hernia, but found instead an inflamed testicle in the inguinal canal. He had been sent by his physician to a truss-maker, who had produced the orchitis by rude manipulation. No hernia existed, but both testicles were retained in the inguinal canals.

A light pressure over the internal ring will, in such a case, encourage the descent of the testicle and prevent any protrusion through the dilated canal.

A young man now present was sent to me by Dr. W. E. Forest on the 16th of last month, who presented the following condition:

A large scrotal hernia, the contents of which was principally bowel, but containing also from a half to one ounce of fluid.

The fluid as well as the bowel could be returned to the abdomen, leaving just below the external ring a small undeveloped testicle. The history of the case, as furnished me by Dr. Forest, is peculiar. The patient having been subject to attacks of colic, the doctor examined him for hernia. None existed, nor was the testicle outside of the external ring at that time.

Some months later he presented himself with the hernia as already described. The case presents the characteristics of congenital hernia.

The young man is now under treatment by the injection method.

In closing this somewhat disconnected paper, I desire to bring before you a method for which I expect, at a later date, to claim an important place in the list of means at our command for the palliative treatment of hernia.

I expect to make even broader claims for it, as my experience confirms me in the belief that in this method, combined with the skilful mechanical treatment of hernia, we have the means which will afford the greatest relief, and produce the largest number of cures attainable.

I refer to the injection of the extract of white-oak bark into the inguinal canal, in quantities of from five to ten minims, repeated at intervals of about two weeks, and this without confinement to bed, or detention from ordinary business.

The fluid used is after the well-known Heaton formula, and the injection is made into the canal outside the hernial sac.

The patient is first supplied with an accurately fitted truss, which shall retain the hernia as perfectly as possible; after this has been worn for about one week the first injection is made, and is made in the following manner: With the patient in the recumbent posture, the end of the forefinger of the right hand is passed into the external ring by invaginating the scrotal tissues, the cord and sac being held to the outside of the finger. The forefinger of the left hand is now pressed firmly over the end of the finger that is in the ring, and as the latter is withdrawn, the former is pressed directly into the ring. The needle is passed at the end of the left forefinger directly into the canal, and the fluid gradually deposited. Where the subcutaneous tissues are thin, an ordinary strong hypodermic needle is used, but in cases with a thick deposit of adipose tissue covering the external ring, the hernial syringe described by me in THE MEDICAL RECORD of February 7, 1880, is employed.

Slight discomfort follows the injection, which usually continues for two or three days, and the parts are sensitive for a week afterward. The truss is worn constantly, even at night, if too much discomfort is not produced. As the injections are repeated the truss-pressure is reduced.

I make this preliminary report on this method merely to place it before the profession, that others who so desire may also use it. My first case was treated by this method two years since, and resulted in a complete cure after five injections. I have used it for the past year at the Polyclinic, and with results which warrant my bringing it before you.

I have now in course of preparation a paper on the "Treatment of Hernia by Injection," which will include full particulars respecting this method.

A CASE OF FATAL PURPURA HEMORRHAGICA.

BY A. BRAYTON BALL, M.D.,

NEW YORK.

FOR the notes of the following case of fatal purpura hemorrhagica, I am indebted to Dr. S. W. Lambert, Senior Assistant Physician to the First Medical Division of Bellevue Hospital:

J. M——, aged thirty, United States, married, cook, was admitted to my service at Bellevue Hospital, February 6, 1886. Habits very intemperate, but says he has not been on a spree for six months. Within the past few years has had two attacks of acute inflammatory rheumatism. On January 19th he was attacked with pain and swelling in both ankles, but was not confined to bed. These symptoms improved after a few days, but he did not entirely recover the use of the joints. On February 2d his right arm became swollen from the elbow to the shoulder, and soon afterward the left arm was similarly affected, though to a less degree. He lost appetite and felt weak. Twenty-four hours before admission he was seized with a severe cough, with bloody expectoration, which still continues. He had a "chancre" several times, but no specific history can be obtained.

On admission, temperature, 102°; pulse, 124, full, regular. No cardiac murmur or other evidences of heart disease. Lungs normal, with the exception of a few bronchial râles. Liver-dulness diminished in extent. Spleen normal in size. External lymphatic glands not enlarged. Urine contains ten per cent. of albumin, granular casts, and blood-cells. On the left side of the neck is a hard, brawny, tender, non-fluctuating swelling, two by four inches in size, which he states made its appearance five weeks ago, and has given him but little annoyance until within the last twenty-four hours, during which time it has nearly doubled in size; the overlying skin is somewhat reddened, but not ecchymotic; on exploratory puncture a little blood, but no pus, is obtained. Both upper arms are considerably swollen, and present reddish-yellow ecchymoses of the skin, with tenderness, especially in the region of the elbow-joints. The right hand is also swollen, and the wrist is tender, the skin in the neighborhood presenting some reddish-yellow discoloration. Petechial spots on skin of right eyelid. On the back, loins, and thighs are numerous raised ecchymotic patches, varying in size from that of a pea to that of a bean, together with a few vibices. The tip of the tongue presents an irregularly shaped subepithelial ecchymosis. No hemorragic inflammation or sponginess of the gums. No jaundice.

February 8th.—Hæmoptysis still continues, but is not excessive in amount. Tongue swollen, and of a dark-blue color. Over the hemorrhagic area the epithelium is removed, leaving a superficial ulcer. Subcutaneous hemorrhages on the calves and near the knees, with reddish-yellow discoloration of the skin in these places. Numerous fresh petechial spots are seen on the loins, thighs, and arms. These spots began as raised patches of the

size above mentioned, remaining white for from twelve to twenty-four hours, and then gradually becoming petechial. The temperature has ranged between 102° and 104° F. The albuminuria (ten per cent.) and slight hæmaturia are still present.

February 10th.—The hæmoptysis has ceased. Patient is more comfortable, with the exception of some pain in shoulders and left hand, which is swollen. A few fresh hemorrhagic spots have appeared, especially on left leg. Temperature slightly lower.

February 12th.—Most of the first crop of petechiæ have disappeared, leaving only a slight yellow stain. Fresh eruptions have occurred on loins and thighs. The scrotum is much swollen and of a dark-blue color. Complains slightly of pain in shoulders and elbows. Swelling in neck is somewhat smaller and less tender; no pus obtained on exploratory puncture. Tongue brown, but moist. Temperature, 104° at 1 P.M.; respiration, 48. Examination of heart negative; examination of lungs unsatisfactory. No abnormal physical signs except feeble respiratory sounds and some general impairment of resonance.

February 14th.—Pulse, 150; respiration, 50; temperature, 104°. Dulness and bronchial breathing over right upper lobe, most distinct in right axillary line. Expectoration mucous, not pneumonic. Tumor in neck is diminishing in size. Bullæ have formed on scrotum, which have ruptured and discharged a bloody fluid.

February 17th.—No fresh hemorrhages have been observed. Only a few petechial patches now remain on the skin, and these are of a lemon-yellow color. Appearance of scrotum unchanged. Expectoration profuse and lemon-colored. Pulse, 160, and weak; temperature, 103°. Patient rapidly sank and died at 1.45 P.M. No autopsy was allowed.

The absence of an autopsy in this case makes it difficult to say whether we had to deal with an uncomplicated case of purpura hemorrhagica or whether the hemorrhagic manifestations were due to some underlying condition other than changes in the walls of the blood-vessels. The marked prominence of the joint-symptoms, especially during the last two weeks of the illness, naturally suggests the inquiry whether the case was not, after all, one of acute articular rheumatism complicated with purpura hemorrhagica.

The occurrence of two previous attacks of acute rheumatism is certainly significant in this connection. The joint-symptoms in the present illness, although less intense than is usual in acute rheumatism, were certainly more marked than, and ran a different course from, the joint-symptoms noticed in so-called purpura rheumatica or peliosis rheumatica. In the latter affection the joint-affection precedes the hemorrhages by only a few days, is usually confined to the lower limbs, and subsides when the eruption makes its appearance. In this case the ankles were affected two weeks before any hemorrhagic manifestations.

On February 2d acute articular symptoms developed in both upper extremities, with considerable fever, and continued with but little change until death. Moreover, peliosis rheumatica, as differentiated by Schönlein and others from purpura hemorrhagica, is characterized by the presence of superficial, and the absence of internal, hemorrhages. Still, cases have been observed occasionally which began as a mild peliosis rheumatica preceded by joint-symptoms, and afterward developed into marked or even fatal purpura hemorrhagica with internal hemorrhages, and this fact has led many writers to adopt the view that there is no essential pathological distinction between the two affections. Whether in such cases the arthritic symptoms have ever assumed the prominence noticed in the present instance, I have been unable to ascertain.

Notwithstanding the previous rheumatic history of the patient, and the resemblance of the joint-symptoms in the present attack to those of acute articular rheumatism, there are good reasons, it seems to me, for believing that the arthritic affection was not wholly, if at all, of a rheumatic nature, but was connected with the general hemorrhagic process.

It is to be noted that the joint-lesions were confined to the upper extremities, at least during the last two weeks of the illness, and were situated in the immediate vicinity of extensive superficial and deep hemorrhages. This connection is probably more than a mere coincidence, and points to an explanation of the joint-symptoms similar to that accepted for the joint-symptoms of peliosis rheumatica, viz.: that the arthritic tenderness and swelling were due to hyperæmia and serous transudation or even hemorrhages into the cavities of the joints, these lesions being produced by the same structural changes in the walls of the vessels of the joints as those which underlie the hemorrhagic extravasations in other situations. Again, the development of acute articular symptoms coincided in point of time with the occurrence of extensive hemorrhages into the connective tissue of the adjacent parts.

On the supposition that the joint-symptoms were truly rheumatic, the question naturally arose whether the hemorrhages could be due to a malignant endocarditis which failed to reveal itself by physical signs on the part of the heart. Petechial eruptions have been observed in some cases of this affection, but I have been unable to find any mention of such wide-spread hemorrhages in this connection as were observed in this case; for instance, petechiæ on the left eyelid, hemorrhages into the tongue, scrotum, lungs, kidneys, and probably other internal organs, deep extravasations into the subcutaneous connective tissue of both arms, and numerous petechiæ and vibices on the back, abdomen, loins, and legs. The very multiplicity and severity of these lesions make it highly probable that they were not produced by hemorrhagic infarctions by emboli carried from the heart, but were occasioned by wide-spread tissue-changes in the walls of the blood-vessels.

A word in regard to the high temperature which was noticed in the case. Purpura hemorrhagica is usually an afebrile disease. In the febrile cases, in which the purpuric symptoms are not due to an underlying febrile process, the elevated temperature may be explained partly by absorption from the hemorrhagic foci, and partly by inflammatory irritation excited by these foci. That the febrile disturbance was somewhat more marked than usual in the present case is what might be expected from the great number and extent of the sources of infection and inflammatory irritation.

It may be added that the patient's occupation and habits were such as to predispose him to degeneration of his blood-vessels. The occupation of cook is unfavorable to a proper nutrition of the body. Cooks usually take but little exercise and have poor appetites. The patient's habits were, moreover, very intemperate, and had, most probably, already produced cirrhosis of his liver and kidneys.

THE BERLIN TREATMENT OF THROAT-DISORDERS.—In the topical treatment of both acute and chronic catarrhal laryngitis and pharyngitis the remedy which the Berlin physicians place before all others, nay, use almost to the exclusion of all others, is nitrate of silver in solutions varying from two to fifty per cent. Moreover, they use the spray almost not at all—instead, make applications with a brush or small sponge. Their theory is that their application is more exact, and touches nothing but the particular portion intended to be touched; but as a matter of fact, except in cases where some growth was to be removed or an application made to an ulcer, the forcible manner in which the brush is moved about in the larynx is almost as injurious as the original trouble. Moreover, their results in catarrhal affections are not as good as ours.—Correspondent of *The Medical Press of Western New York.*

Clinical Department.

HABITUAL ABORTION IN CONNECTION WITH DISEASE OF THE HEART AND KIDNEYS.

Dr. Frank H. Murdock, of Bradford, Pa., writes: On February 9, 1886, Mrs. K——, aged forty-one, came into my office complaining of great weakness, and shortness of breath on making any exertion. She menstruated at fifteen, and has always been regular. She married at twenty, and had six living children at term, all healthy. Then followed four premature births, the fœtus dying about the seventh month of pregnancy, and being expelled four weeks later. Next in order came a healthy living child at term, which was succeeded by five premature births of dead children at the eighth month of pregnancy, the last miscarriage occurring three months ago. Examination of the patient revealed a slight laceration of the cervix, a well-marked aortic systolic murmur, and the urine contained albumen, a quarter, and an abundance of granular and epithelial casts. There is no history of syphilis, and there is now no tenderness over the sternum or tibiæ, and no changes in the retinæ can be detected.

INVERSION OF THE UTERUS.

Dr. George E. Brickett, of Augusta, Me., reports a case of a woman who, on the third day after labor, had severe expulsive pains, and passed a quantity of blood-clots. From that time she continued to suffer from loss of more or less blood every day, was confined to her bed, became extremely emaciated and anæmic, and could not move without shortness of breath, faintness, and vomiting. When Dr. Brickett was called to see the patient, two years later, he found what on first sight seemed to be a polypus, but which a more careful examination showed was the inverted uterus. After a short course of tonic and stimulating treatment repeated attempts were made to reinvert the organ, but these failing, a spring ligature was placed around the base of the tumor, and the uterus dropped off on the tenth day. There was no hemorrhage after the application of the ligature, no severe pain, and no constitutional disturbance. The patient made an excellent recovery, and has enjoyed good health during the seven years that have elapsed since the operation.

A CASE OF IMPERFORATE HYMEN.

Dr. J. G. Knox, of Toomsuba, Miss., writes that he was called to see a young woman, twenty-two years of age, who was supposed to be suffering from gravel, having had difficulty in passing water, and, at the time of coming under observation, was suffering from retention of urine. She was stout, of good color, and seemingly in robust health, but had never menstruated. The abdomen was very large, but no signs of pregnancy were discoverable. A wedge-shaped tumor was found extending obliquely upward and backward from the posterior commissure of the labia to the roof of the vagina. The patient stated that this tumor had made its appearance suddenly while she was lifting a heavy tub of water. The os uteri could not be found after most careful search. A diagnosis of imperforate hymen, with retention of menstrual blood, was made, and the membrane was punctured with a trocar, which gave exit to nearly sixteen pints of a dark, thick, grumous fluid, which, however, had no disagreeable odor. The cavity was then washed out carefully with carbolized water, and the orifice in the hymen was enlarged. The membrane was one-eighth of an inch thick and very tough. The uterus was filled with menstrual blood, and was as large as it would normally be at term.

RUPTURE OF THE LIGAMENTUM PATELLÆ.

Dr. Samuel Thompson, of Toledo, Ia., reports the case of a man, twenty-six years of age, who fell from a wagon, tearing the ligamentum patellæ from its attachment to the tubercle of the tibia. He was supposed at the time to be suffering from a sprain, and was treated by weight extension and liniments. When first seen by Dr. Thompson, three weeks later, he was emaciated, nervous, and suffering great pain in the knee. The joint was flexed to an angle of 45°, the patella was dislocated upward for about an inch and a quarter, and there was a distinct depression just above the tubercle of the tibia. There was very little swelling about the joint, but tenderness and pain on the slightest motion, either active or passive. The patient was discouraged, and was losing flesh rapidly. Dr. Thompson encased the leg in a plaster-of-Paris bandage, pushing down the patella as far as possible and making firm pressure over the knee. The immediate result was an increase of pain, but this subsided in a few minutes, and there was thereafter no pain and great relief from the muscular spasm.

The patient soon commenced to improve in general health, and was out of bed in a week from the time of applying the plaster dressing. The dressing was left on four weeks, and was then removed; passive motion being ordered, to be kept up indefinitely. Dr. Thompson concludes: "Some of the mosaic doctors in this region think, or affect to believe, that the use of the plaster dressing in the case was not the proper treatment. I think it was, for it accomplished what I started out with, viz., to relieve the pain and get the patient out of bed."

A CONGENITAL DEFORMITY.

Dr. H. Hudon, of Fraserville, Canada, writes: On June 10th last I delivered Mrs. M——, at full term, of a male child. The peculiar moaning of the new-born attracted my attention. Upon examination I noticed that the eyes were very small and red. Both ears were entirely absent, their places being supplied by two small cartilaginous lumps. The arms were unusually long, and had no elbow articulations—only one long humerus. The thumbs were absent, and the remaining four fingers were very short. The legs were of the usual length, but were also deprived of the knee articulations. The whole surface of the body was covered with hair, especially on the forehead and face.

Rather Cheeky than Otherwise.—The palm for brazen assurance must certainly be awarded to a new firm of patent-medicine vendors who have taken to sending their circulars and sample bottles of their physic to physicians throughout the country. One of the pamphlets contains a somewhat startling picture of a gravestone. It is not, as might at first sight be supposed, a premium to be given to the consumers of the medicine; but is merely a design of a monument to be erected as a tribute of love and gratitude to the inventor of the sure cure by his patrons, and possibly also as a thank-offering from those who have tasted of the draught and still live. One of the many reasons given why the remedy should be always kept on hand is that it is economical, saving in most cases the expenses of a physician. This is an advantage, as it enables the mourners to pay the undertaker promptly.

A Sceptic.—A gentleman who evidently underrates the value of all previous anatomical study writes to *The St. Louis Medical and Surgical Journal* an account of a wonderful case of intestinal obstruction which he finally cured by passing a piece of rubber-tubing up into the rectum just as long as he could shove it in. He says he "passed nearly two yards of tubing into the resepticle," and excitedly exclaims, "What I want to know *is* there such a thing as the illiasecle valve?"

Progress of Medical Science.

TREATMENT OF CHOLERA BY ABDOMINAL COMPRESSION.—Dr. C. Brückner writes in *Memorabilien*, vol. xxx., No. 8, to direct attention anew to a therapeutical measure employed by him successfully in the cholera epidemic of 1872. The excessive loss of fluids from the intestines and stomach causes an inspissation of the blood, in consequence of which the circulation is markedly impeded. The nutrition of the tissues, and especially of the intestinal nerves, already partially paralyzed by the contagium, is thus so seriously interfered with as to constitute in itself a special menace to life. The author was thus led to discontinue all medication, the blood stasis rendering absorption in most cases impossible, and sought to compress the abdomen by means of a cold sand-bag, weighing from nine to fifteen pounds, such as is sometimes used in uterine hemorrhage after parturition or abortion. By means of this combination of pressure and cold (ice was also given internally), he states that not only were the intestinal discharges controlled, but the circulation was improved. When the pulse showed that circulation was again active, the remedies deemed appropriate could be administered with every hope that they would act promptly. Dr. Brückner employed this method in twenty-five cases of cholera at different stages, and lost but three patients. His papers were published in the *Deutsche Klinik* for 1873 and 1874. He advises, as a more effective mode of producing compression, the application of an elastic band around the body; between this band and the abdomen are placed two metal plates which can be separated by means of a screw. In this way any desired amount of compression can be obtained, and at the same time the application of cold is facilitated by placing the ice-bag between the two plates. Professor Kashimura, of Japan (*Wiener Medizinische Presse*, No. 42, 1885), employs a somewhat similar principle, placing large ice-bags on the abdomen. But the degree of compression obtained is much less by this method than by that just detailed.

OTALGIA.—This is the title of a recent memoir by Dr. V. Grazzi. The author treats only of those forms of earache which are nervous in their origin, and not due to any inflammatory conditions. Nervous otalgia, he states, is due to an alteration in the sensory nerves distributed to the external, middle, or internal ear. Neuralgia of the pavilion is rare, and usually circumscribed; if the pain is seated in the anterior aspect the auriculo-temporal branch of the fifth nerve is affected; if on the posterior surface the superior cervical. Earache is often reflex in its origin, depending upon dental caries, ulcerations of the epiglottis, lesions of the larynx or pharynx, cancer of the upper portion of the œsophagus, etc. Malarial poisoning is also an occasional cause of otalgia. The author has several times seen it arise with the paroxysms of fever, and subside as these passed away. Rheumatism, hysteria, and sudden atmospheric changes may also occasion pain in the ear. The chief symptom is pain coming on suddenly, usually in the night, then subsiding and returning periodically. In neuralgia of the pavilion a light touch often aggravates the pain, while temporary relief is sometimes obtained by strong compression. The pain of otalgia is increased by passing from a warm to a cold atmosphere, and loud noises or words spoken close to the ear may induce a fresh attack. The auditory sense is sometimes blunted. The affection may last several days or weeks, and may become chronic, especially if the causal conditions remain unchanged. The best remedy, Dr. Grazzi states, at the beginning of an acute attack, is valerianate of quinine, with which may be combined iodide of potassium, as recommended by Politzer. In the chronic form, the best results have been obtained from the continued current; the positive pole is to be placed in the ear and the negative pole applied to the nucha. The induced current is contra-indicated. Pain caused by lesions of the middle ear may often be relieved by the insufflation through the Eustachian tube of the vapor of chloroform or turpentine.—*Revue Médicale*, February 6, 1886.

THE TREATMENT OF ACUTE PROSTATITIS BY HOT WATER INJECTIONS.—M. Paul Reclus speaks very highly of the value of hot rectal injections for the relief of the pain and turgescence of the prostate in acute inflammation of this gland. He uses water at a temperature of 130° F., and instructs the patient to retain the injection as long as possible. At the same time he applies wet compresses of the same temperature to the perineum. By this means he states the pain is almost immediately relieved, vesical tenesmus and dysuria disappear, the swelling diminishes, and a complete cure is obtained within a few days. He relates two cases, one the result of gonorrhœa, in a man thirty-one years of age, and the other in a man of fifty-five years, in whom an acute prostatitis supervened upon a chronic enlargement of the gland. In both cases the relief obtained by the use of hot injections and perineal compresses was almost instantaneous.—*Lyon Médical*, January 10, 1886.

A WAY OF LIMITING THE APPLICATION OF POLITZER'S METHOD TO A SINGLE EAR.—In unilateral aural affections the employment of Politzer's and other similar methods often causes injury to the healthy ear, the drum membrane of which, stretched violently outward, carries with it the chain of ossicles. And sometimes, when there is obstruction in one Eustachian tube, the full force of the inflation is expended upon the ear which requires no treatment. The practice of stopping the healthy ear with the finger is an ineffectual means of averting this inconvenience. At the third International Congress of Otology, Dr. Loewenberg exhibited an apparatus designed to correct this fault. The tube attached to the air-bag is divided into two, the end of one being placed in the nostril in the ordinary way, that of the other in the meatus of the sound ear. When the bag is compressed, the air-pressure tending to force outward the membrane of the tympanum is met by an opposing column of air from without, of equal force, so that between the two currents the equilibrium of the membrane is maintained.—*Lo Sperimentale*, January, 1886.

THE TREATMENT OF FEVER BY ELECTRICITY.—Professor E. De Renzi, having by chance observed a case of quartan fever cured by the application of electricity, instituted a series of experiments in this direction, and has formulated as a result of these observations the following conclusions: 1. Fevers of malarial origin resist the action of the electrical current much more than do those symptomatic of bronchitis, pulmonary phthisis, etc. 2. During the application of electricity the temperature remains elevated, or even rises a fraction of a degree; but soon after, at the most within an hour or two, a fall of several degrees occurs. 3. The best effect is obtained by holding a moist electrode in the hand while a metallic brush attached to the other pole is swept over the surface of the body. 4. Arterial pressure is increased during the application, the skin becomes reddened and often moistened with perspiration, and the pulse is increased in force. It is probable, therefore, that the antipyretic effect of electricity is due to the increased activity of the cutaneous capillary circulation, whereby caloric is more rapidly lost. —*Gazzetta Medica Italiana*, January 23, 1886.

SPASTIC SPINAL PARALYSIS.—Dr. Gaetano Zavena relates the case of two individuals of the same family—father and son—who were attacked nearly simultaneously with a peculiar paresis of the lower extremities, the symptoms being those of spastic spinal paralysis. No cause could be found for the trouble except that both men had been living for two years on an almost exclusive diet of French or kidney-beans. The author was led to suppose the existence of a nervous alteration due to the bean diet, similar in its nature to lathyrism.—*Raccoglitore Medico*, February 10, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 3, 1886.

LIFE AS A PUTREFACTION.

THE conviction has been growing that the evil effects produced in the animal system by the action of micro-organisms result from certain chemical poisons developed during bacterial growth. It is very well known that there are always produced in the putrefaction of tissues certain toxic substances which are known as ptomaines. Some peculiar ptomaines, resulting from the activity of special bacteria, may, it is thought, give rise to a special disease. The symptoms of cholera, for example, are supposed by some to be due to those alkaloidal products of the growth of the cholera bacillus. It has long been suspected that certain putrefactive products were the cause of certain morbid symptoms, such, for example, as those of dyspepsia in disease of the stomach or of fever in gastro-intestinal catarrh.

The view, however, that in the natural and normal course of tissue activity there are any poisonous alkaloids developed must be considered somewhat novel. A French contemporary, which apparently has access to the sibyllic books, tells us that the principal medical event of this year is certainly the communication which M. A. Gauthier has made to the *Académie de Medecine* upon ptomaines and leucomaines, in which he announces the discovery that in normal vital action there is a continual manufacturing of poisons, which, if not eliminated, cause disease. The comment of Professor Peters is quoted: "Can the medical mind hesitate a moment between the parasitic doctrines, full of shadowy hypotheses, and this new doctrine, as luminous as it is precise, which explains the phenomena of normal and abnormal life by life itself in action?"

Has some one then opened the door to a New Pathology?

M. Gauthier tells us that he has found in the excretions of living animals, healthy as well as diseased, bodies of the nature of ptomaines. The alkaloids of the urine described by Liebreich and Pouchet belong to this class. Recently he has also discovered in the muscular juice five new alkaloids, "perfectly defined and crystallizable;" these latter have a more or less powerful action upon the nervous system, producing somnolence, fatigue, and even vomiting and purgation, having, in fact, an action similar to but milder than that of the cadaveric alkaloids. This group of substances is called leucomaines, from λεύκωμα, white of egg, and they are defined as alkaline bases appearing during life in the tissues and derived from the albuminous matter of the tissues.

To establish the fact that life is in part a kind of putrefactive process, Gauthier makes some calculations showing that part of the vital processes is "anaërobic," *i.e.*, takes place without the aid of oxygen. According to certain experiments of Pettenkofer and Voit, a dog weighing 33 kilos absorbs daily 477 grammes of oxygen in the form of air, and excretes 587 grammes, or an excess of oxygen averaging 110 grammes. This excess represents a breaking up of tissue and yielding up of its oxygen; it is not a combustion, like the larger part of vital processes, but a putrefaction, such as the micro-organisms produce, It is, therefore, assumed that one-fifth of tissue metabolism is "anaërobic," or putrefactive, and leucomaines are the result. We already know, says Gauthier, that our bodies are constantly developing and discharging such putrefactive products as ammonia, carbonic acid gas, sulphuretted and phosphuretted gases, indol, scalol, phenol, fatty acids, etc. We may be perfectly prepared to expect, therefore, that there should be putrefactive alkaloids, smaller in amount, more powerful and insidious in action, in the secretions, blood, muscles, and other tissues.

Many diseases may result from imperfect excretion of these leucomaines. Indeed, there would be a continual auto-infection from them if the skin, kidneys, bowels, and lungs did not act freely, and the oxygen of the blood, which is their great enemy, were not continually supplied to the tissues. Whether any specific diseases may result from the accumulation of certain leucomaines in the system remains to be determined. MM. Gauthier and Peters believe that here is a fruitful field for further research. They may be right, but we may remind our readers of the researches of Guareschi and Mosso, who showed what serious sources of error there are in experiments to determine the presence of ptomaines and leucomaines. They found residue having alkaloidal reactions in alcohol, ether, and chloroform, while in ninety-six pounds of human brains they found only a minute quantity of toxic alkaloid. Leucomaines, if they exist, therefore, are apparently only in extremely minute amount.

THE GERM OF TYPHOID FEVER.

MICRO-ORGANISMS were found in the blood of typhoid-fever patients more than twenty years ago, and experiments to determine their significance have been going on ever since. The results, until lately, have not been very fruitful. Previous to the careful studies of Gaffky very little real advance was made owing to the imperfection in technique. Gaffky made a series of pure cultures of the bacillus of typhoid, after the method of Koch. He found the bacilli in twenty-six out of twenty-eight. They were observed in the mesenteric glands, spleen, liver, kidneys, and swollen follicles. Pure cultures made upon potato and gelatine were inoculated into lower animals with negative results. Hence, although the typhoid bacilli were found only in that disease, Gaffky obtained no positive evidence of their pathogenetic function.

Subsequent experimenters have been more fortunate. In a recent monograph by E. Fraenkel and M. Simmond, some successful inoculation experiments are reported. Still later, Professor A. Fraenkel, in the *Centralblatt für*

klinische Medicin, March 6, 1886, contributes the results of his experience. He made pure cultures of the typhoid bacteria obtained from the spleens of four different cases. These cultures he injected into mice, rabbits, guinea-pigs, and doves, using from three to five minims of the gelatine culture-fluid. Of the sixteen mice, all died, and were found to have enlarged spleen and swollen Peyer's patches, while the characteristic bacilli were found in the blood. The inoculated doves were refractory, while of three rabbits only one died. The autopsy upon it was practically negative.

The guinea-pigs, however, which did so much for the scientific habilitation of the cholera bacillus were equally useful in the present issue. The virus was injected directly into the duodenum, as in the case of the cholera bacillus. The animals died in from five to seven days. On post-mortem examination, no peritonitis existed, but the spleen was found enlarged, Peyer's patches throughout the intestine were swollen, and one of them actually ulcerated. The mesenteric glands were also swollen. The characteristic bacilli were found in the intestinal wall and the spleen. Sometimes slight capillary hemorrhages in the bowel were noticed. Fourteen animals were experimented upon, of which seven gave positive results. Of these seven, five received the virus directly into the duodenum, while in two it was injected subcutaneously.

Fraenkel tried some experiments with mitigated virus, *i.e.*, virus enfeebled by growth at a high temperature. In six injection experiments in which the fluid was deposited in the duodenum the results were negative, showing that the bacilli can by culture be deprived of their potency.

The experiments of Fraenkel and those of E. Fraenkel and Simmonds furnish decided progress in the work of showing that the typhoid bacillus is the specific germ of typhoid fever.

THE CAUSE AND PROGNOSIS OF CEREBRAL APOPLEXY.

The unfortunate illness which has attacked Secretary Manning calls attention to some of the facts which the modern pathologist has developed, or is still studying, with regard to the subject of cerebral hemorrhage. One fact which the pathologist has not perhaps felt called on to investigate is the apparent increase, relatively and absolutely, of this trouble. In England and Wales, during the years 1850–54, the average annual death-rate from apoplexy per million inhabitants was 454.2, while in 1870–74 it was 523.8. During the same periods the ratio of deaths from brain diseases increased from 192.4 to 248.6.

In New York City the total deaths from apoplexy and hemiplegia in 1874–75 amounted to 1.35 per cent. of the total death-rate; in 1884 the percentage was 1.8. Even bearing in mind the fact that more persons reach the apoplectic age now than did thirty years ago, it still remains probable that apoplexies are on the increase.

Modern pathology has shown that the primary cause of cerebral hemorrhages is, in the great majority of cases, the bursting of miliary aneurisms which have developed on the cerebral vessels as the result of a local periarteritis. The most important supplemental cause to this is an increased arterial tension due to heart disease, plethora with corpulence, and disease of the kidneys with the arterial sclerosis often accompanying it. Charcot found hypertrophied heart in forty per cent. of cases of cerebral hemorrhage, and renal disease in 32½ per cent.

The cause of the miliary aneurisms is naturally the point that should most interest the physician, but here little progress has been made. We know in general that they develop almost solely in persons passed forty, while from fifty to seventy is the apoplectic age. As in five-sixths of the cases atheroma of the arteries is present, we may attribute the aneurisms to much the same cause as the atheroma, viz., degenerative changes natural to old age, chronic alcoholism, specific disease, and continual excesses and exposure of almost all kinds. They develop more often in men, and heredity, as shown by Hughlings-Jackson and Dieulafoy, undoubtedly plays its part.

It is still a matter of some doubt whether such a thing as the "apoplectic habit" exists. Most systematic writers of late years deny it, but it is very evident that many of these authorities either "speak by the book" or argue from a hospital experience among the poor, who do not suffer from corpulence. We are ourselves much inclined to side with Immermann, who places apoplexy among the prominent "complications and sequelæ" of corpulence, especially if with it there is plethora. A corpulent man who has passed the age of fifty is more likely, other things being equal, to have degenerated arteries and higher arterial tension than a spare man. He is in more danger of an intracranial hemorrhage.

Brain-workers are not by virtue of their work made liable to apoplexy. This is a disease of nutrition and of the blood-vessels; its causes are senility, exposure, and intemperate living in the broadest sense. Whatever puts off old age delays degenerative changes and lessens also the tendency to apoplexy.

The prognosis after an attack occurs relates to life and to health in the future, should life be preserved.

Quick onsets, quickly recovered from, are more favorable than those coming on slowly. When the attack comes on without loss of consciousness, as was the case, we are told, with Secretary Manning, the prognosis *quoad vitam* is very good. If loss of consciousness is profound, and lasts twenty-four or forty-eight hours, the outlook is most ominous. But one of the worst prognosticators of the future is the clinical thermometer. A progressive rise or a steady fall of temperature means death, while an absence of rise or fall of temperature is a most favorable sign. The extent of the paralysis, and aphasia, if that exists, gives a fair indication of the extent of the lesion, and this, in connection with a history of its progress during the first fortnight after the attack, will tell how much of mental or physical restoration can take place.

THE NEW HAVEN WATER-SUPPLY.

We have received from Professor Herbert E. Smith and Mr. William E. Lockwood, of the Medical School of Yale, some criticisms regarding the reports upon the water-supply of New Haven. These criticisms relate especially to the analyses of this supply made by Dr. Arthur J. Wolff, of Hartford, and published officially in the Report of the Connecticut State Board of Health.

Dr. Wolff's figures make the water of New Haven worse than it really is, according to Professor Smith and others. There is also a peculiar uniformity in the figures.

From three of the four sources of the water-supply Dr. Wolff's analyses give as follows: Total solids, 17.6 to 19.1 grains per million; chlorine, 7 grains per million; ammonia, free, .011 to .05 parts per million; ammonia, albuminoid, 0.100 to 0.341 parts per million.

In contradiction to these figures are those of Professor Smith and his assistant. These authorities make the total solids from 2.5 to 4.6 grains per gallon, while the chlorine does not reach above 4.79 parts per million, instead of 100 to 105.7, as given in the State Health Board's Report. Very similar results were obtained by Professor R. H. Chittenden, whose figures are quoted by Professor Smith, and who finds only one-sixth as much "total solids" as did Dr. Wolff. Samples of the same supply, as our correspondents believe, were examined at the same time by Dr. Wolff and Professor Smith with the following very different results:

			Ammonia.	
	Total Solids.	Chlorine.	Free.	Albuminoid.
Dr. Wolff	305.	105.7	0.0173	0.276
Authors	59.9	4.8	0.034	0.198

THE SUCCESSFUL RESECTION OF FIVE FEET OF INTESTINE.

It is, we believe, only about four years since the gangrenous gut in strangulated hernia has been successfully resected by a primary enterorrhaphy. In 1884, Baum, of Danzig removed 137 ctm. by a primary operation, but the patient died. Koberle has successfully removed two metres of the intestine by a secondary operation.

Recently Professor Th. Kocher, of Bern (*Correspondenz Blatt*, March 1, 1886), reports a case in which he successfully resected 1 metre 60 ctm. of gangrenous intestine. As this, according to his statement, is the first time in which so large a portion of the intestine has been successfully removed in strangulated hernia with gangrene, the case deserves some notice.

The patient was a laborer, fifty-seven years of age, and for years had had a right-sided inguinal hernia of about the size of an egg. He was brought into the hospital while suffering from a strangulation of the gut that had lasted about twenty-four hours. An operation was deemed necessary, and upon cutting down into the sac the intestine was found plainly very œdematous and gangrenous. On account of the extensive gangrene it was decided to resect the intestine rather than leave it. This was accordingly done, under careful antiseptic precautions; thirty vessels in the mesentery had to be ligatured. The wound was closed and a drainage-tube inserted; the patient was fed mainly by the rectum for three days. The wound healed without any reaction or complication, and the patient was discharged, perfectly well, in eighteen days. He was seen again in the fall, and reported that he had never been better in his life.

Kocher makes a number of interesting comments upon this case. He explains the mechanism of the sudden strangulation by the extremely high pressure in the sac. This reached 67 ctm. of water, while the pressure in the mesenteric veins is only about 40 ctm. of water, hence stasis of the blood, œdema, and gangrene.

The question in this case arose as to whether there should be a resection, or whether the parts should be left to form an artificial anus. In Kocher's opinion the conditions forbade the latter plan. The statistics of Heimann (83 cases), gave for the operation for artificial anus a mortality of only five per cent., while the statistics of Guillard (44 cases), and Madelung (88 cases), make the mortality for intestinal resection about fifty per cent. Kocher, however, takes a much more gloomy view of the future of patients who are left with an artificial anus, and thinks that a great part of them die of malnutrition or some intercurrent disease of the bowel. Kocher, therefore, on these grounds, and on the ground of the greater safety of enterectomy under careful antisepsis, makes a plea for the more frequent application of this operation in cases of strangulated hernia with gangrene.

AN HONOR TO DR. SAYRE.

It has often been cited as an argument against the dignity of the Republic, that although we call ourselves Americans, we are in truth but a mongrel race, tracing our progenitors to the back stairs of every European nation. During the early stages of our development, and even at the present day, there is something of truth in the accusation; and yet there are many and mighty indications of occult sub-currents in our unique society tending ever to a higher and more homogeneous civilization. Naturally, in the process of welding men to the heart of the Republic, forces have been liberated which, up to a comparatively recent period, found expression in material creations of the most gigantic and unheard-of dimensions. Pending these struggles science and letters were necessarily neglected. But there has come a change upon us. To-day we have undoubtedly a literature which reflects to a certain extent the genius of the American mind; and in science we have opened pathways leading to ends so practical as to cover a positive industrial revolution. It is but natural that this reflection of our environment, this "spirit of the times," this Americanism should have found expression in medicine. We are not surprised, therefore, to find that there has grown up on this side of the Atlantic a medical literature, the most striking characteristic of which is its practicality. This characteristic of American medical writers seems now to be universally recognized in Europe. A notable instance of this is seen in a recent German translation of Dr. Lewis A. Sayre's "Lectures on Orthopædic Surgery." The translator, Dr. F. Dumont, of Berlin, draws, in the preface to his translation, especial attention to the practical attributes of the American mind. He instances this quality as the reason why they have succeeded so well in the domain of orthopædic surgery. As Dr. Dumont truly observes, the name of Sayre is too well known in Europe to require an excuse for the present translation. We heartily congratulate Dr. Sayre upon the well-deserved honor, which is alike a credit to himself and his countrymen.

A New Surgical Specialty.—*The Weekly Medical Review* announces that it will have a special department on Railway Surgery. We are told that the number of cases treated in the hospitals of the Missouri Pacific system alone, during one year, was over one hundred thousand, and that that system employs one hundred and forty-nine surgeons.

News of the Week.

MIAMI MEDICAL COLLEGE graduated a class of forty at its Commencement on March 11th.

THE MEDICAL COLLEGE OF OHIO held its sixty-sixth Annual Commencement on March 10th, and graduated a class of seventy-eight.

AMERICAN CLIMATOLOGICAL ASSOCIATION.—The third annual meeting of this association will be held in Philadelphia, on Monday afternoon and on Tuesday morning and afternoon, May 10 and 11, 1886. Contributions have already been promised by Drs. Loomis, of New York; Garland and Bowditch, of Boston; Baker, of Lansing, Mich.; Pepper and Osler, of Philadelphia, and others.

THE FRENCH SURGICAL CONGRESS will hold its second meeting at Paris from October 18th, to October 21st. The subjects contained in the programme are: Nature, Pathogenesis, and Treatment of Tetanus; Nephrotomy and Nephrectomy; Orthopædic Resections; Surgical Operations in Irreducible Dislocations. Papers on other subjects cannot be read at the Congress unless the conclusions of the authors are forwarded to the secretary, Dr. S. Pozzi, 10 Place Vendôme, Paris, between July 1, and July 13, 1886. Papers that are not read will not be printed in the Transactions.

THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE holds its next annual meeting at Memphis, beginning April 6th.

THE KENTUCKY STATE MEDICAL SOCIETY holds its thirty-first annual session at Winchester, June 23, 24, and 25, 1886.

SUCH IS FAME.—A Western medical journal with one stroke of the pen emasculates and crushes an esteemed townsman. It says that the new National Association of Physicians and Pathologists is to meet under the presidency "of one *Frances* Delafield."

THE NATIONAL BOARD OF HEALTH.—Efforts are now being made in Washington to restore to the National Board of Health those powers of which it has been stripped, and which when it had them made it a very efficient body. We all know that to accomplish much good from a sanitary point of view we must have concerted action; we must have organization, harmoniously working, all the way from the national down to the county or township or village Board of Health. Duties that properly belong to the National Board of Health have been, for some occult reason, relegated to another department of the Government, and it is the effort to restore this power to its proper place to which we refer. For this praiseworthy effort we bespeak the influence of our readers, and ask them to urge upon their Congressmen the importance and justice of the measure.

THE AMOUNT OF SOLIDS which should be present in milk in order to have it approach a normal standard is shown by the results derived from an examination into the milk product of Massachusetts, completed by the department of health of the State Board of Health, Lunacy, and Charity. The milk examined was selected from herds, individual cows, and from cows owned by public and private institutions, all the samples being of known purity, as the inspectors were compelled to witness the milking of the samples gathered. The average solids of all samples of milk obtained from private farms, from herds, and single cows, 426 in all, was 13.36. This amount may be compared with the average amount of solids from samples obtained from all sources, 601 animals, which was 13.26. These two statements represent the average quality of the milk produced by the 150,000 cows of Massachusetts.

WHAT CHICAGO IS DOING FOR THE PROFESSION.—Homœopathy seems to be thriving at the stronghold of the Old Code. In the last six weeks two regular colleges have graduated 243 students, while two homœopathic medical colleges graduated 167. There is another regular college to be heard from which generally graduates about forty, and an eclectic college which graduates about fifty. The total annual output of regulars, therefore, is about 285, and of irregulars about 215. Of the 641 eclectic and homœopathic graduates in 1884, over two-thirds (476) were graduated from Western and Southern colleges.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.—The rates given to the delegates to the American Medical Association, meeting May 4th, in St. Louis, have been fixed by the different railroad committees of the country at one and one-third fares for the round trip. Delegates must pay full fare coming, and will receive, on application, from the agent at the starting-point, a certificate which, when signed by the Chairman of the Local Committee of Arrangements, will entitle them to the reduced return rate.

ACUTE CORYZA IS A NEUROSIS, according to Dr. Lees, of London, and is best treated or cut short by the following method: From forty to sixty grains of bromide of potassium were given at once, the dose being repeated in six hours, and again, if necessary, six hours later; and twenty drops, equal to fifteen minims, of tincture of belladonna were also given every hour or every two hours, until the throat felt a little dry. Painting the nasal mucous membrane with a four per cent. cocaine solution gave great relief, and might even by itself suffice to arrest a cold.

THE IMPORTATION OF RAGS.—The Local Government Board in London and the Board of Supervision of Scotland have extended the prohibition of the importation of rags from Spain until May 1st.

FEES FOR MEDICAL EXPERT TESTIMONY.—Dr. F. G. Groner, of Big Rapids, Mich., writes to the *Medical Age* that in the case of the People *vs.* Vanimmens a physician was called to testify on behalf of the defendant, and when asked for a professional opinion refused to answer until a fee for expert testimony was secured. The judge said he had no authority to secure the fee; the bill must go before the Board of Supervisors. Witness said he had had enough experience with that body to trust them no further. The judge said this question has never been decided in this State. "I can insist," he said, "on the witness answering, and if he then refuse I can fine him for contempt of court, and then let him fight it out with the Supreme Court. But after many years' study and

observation, I decide that a physician's knowledge is his stock in trade, his capital, and we have no more right to take it without extra compensation than we have to take provisions from a grocery without pay to feed the jury. The Court rules that the witness is not *compelled* to testify." The doctor at once stepped off the stand. The defence took exception to the ruling of the Court. Should a new trial be granted, this will be one of the points to be decided by the Supreme Court.

The Southern Medical College held its Annual Commencement at Atlanta on February 25th and graduated a class of thirty-four.

The Medical College of Indiana graduated a class of twenty-nine at its recent Annual Commencement.

The Central College of Physicians of Indianapolis graduated a class of twelve at its last Commencement.

Injuriousness of Natural Gas as a Fuel.—It is thought by some physicians in Pennsylvania, says *The Sanitary News*, that the use of natural gas as fuel is responsible for many cases of diseases of the respiratory organs. The manner in which it is burned in grates necessitates almost entire closing of these important means of ventilation, and the burning gas also vitiates the air of the room with products of combustion.

The Question of the Disinfecton of Rags has come up at Boston, owing to the protestation of the importers against the restrictions of the Health Board. The views of several experts to whom the matter was referred were expressed as follows: First, that the treatment of rags from non-infected ports is not necessary. Second, that from endemically infected ports rags (1) be disinfected to the satisfaction of the Board of Health before embarkation; or (2) disinfected externally in bulk at the port of entry, and also at the mills after breaking bales; or (3) disinfected after imbaling at the port of entry at the discretion of the Board of Health. Third, that from epidemically infected ports the importation of rags be prohibited. Some evidence was given to show that the superheated steam process did not in practice always raise the temperature to a point sufficient to kill the germs.

Creation of a Fund for the Encouragement of the Experimental Cure of Phthisis.—Professor Verneuil, of Paris, has started a fund for the purpose of enabling experimental studies in the treatment of tuberculosis to be carried on. M. Verneuil seems to think that it may be possible to prevent the development of phthisis after contamination by some inoculation method similar to that employed by Pasteur against rabies. The project of securing a fund is enthusiastically supported by the *Gazette Hebdomadaire* and by Dr. Landouzy in the *Revue de Medecine*. Phthisis alone killed sixty-five thousand five hundred and sixty-three persons in Paris during five years.

The Weekly Medical Review wisely discourages the somewhat factious spirit displayed in some quarters as regards the next meeting of the American Medical Association. It says: "The object of the Association is to advance medical science and formulate professional opinion in the United States. Its present most important duty is to provide for the coming of the Medical Congress. Is this object to be attained and this duty discharged by fomenting sectional strife?"

Another Death from Chloroform.—The intelligence reaches us that another death has occurred from chloroform at the outset of preparing an adult patient for a surgical operation. It is the old, old story, which has been repeated so often that it ceases to make any impression upon the stolid adorers of sulf-sufficiency. This time the "accident" occurred in the private hospital of a competent surgeon, in this city, who evidently has failed to see the handwriting upon the wall, so plain that it has been read by all except the indifferent and the stoical.

New York City Lunatic Asylum.—Dr. T. M. Franklin, Medical Superintendent of the New York City Lunatic Asylum, Blackwell's Island, has tendered his resignation, which has been accepted, to take effect on May 1st next.

Dr. James R. Leaming.—We learn that Dr. Leaming has resigned his Professorship of Medicine at the New York Polyclinic.

Obituary.

SAMUEL WARD FRANCIS, M.D.,

NEWPORT, R. I.

The death of Dr. Samuel W. Francis, of Newport, R. I., on March 24th, will cause the keenest sorrow and regret among his wide circle of friends. Dr. Francis had done much literary and scientific work during the twenty-five years of his professional life, but of late had confined his activity mainly to the sanitary and medical interests of Newport.

Dr. Francis was born in this city in 1835. His father, Dr. John W. Francis, was for years one of the prominent figures, socially and professionally, in the history of the metropolis. Having received a degree from Columbia College in 1857, Dr. Francis entered the University of New York, from which he was graduated as a physician in 1860. He distinguished himself while a student by taking the Mott prize medal for the best record of clinics at the University. The first two years of his professional life were passed here as physician in cases of diseases of the head and abdomen at the New York Dispensary in 1860 and 1861, and physician at the same place of diseases of the skin for the following year. While so engaged he wrote a medical essay on "Water," which commanded attention. He went to Newport in 1863. For twenty years or more he was identified with the various interests of that city. He was among the early advocates of sanitary reform, and materially aided in organizing the Sanitary Protection Association, which was the first step which led to the forming of a Board of Health. He was the originator of Newport's Natural History Society, and was interested in the medical society and in various charitable and benevolent organizations. He wrote several books, among them "Inside Out," "Biographical Sketches of Distinguished Living New York Surgeons," "Biographical Sketches of Distinguished Living New York Physicians," "Life and Death," "Curious Facts Concerning Man and Nature," and "Invention of Transparent Treatment." He was ingenious and devised many improvements in methods of treatment, patenting twelve inventions. The New York Academy of Medicine, the New York Historical Society, of which he was a life-member, and the Rhode Island Medical Association were among the organizations with which he was connected.

Reports of Societies.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 5, 1886.

BEVERLEY ROBINSON, M.D., PRESIDENT, IN THE CHAIR.

THE PRESIDENT presented an improved form of *galvano-cautery*, with different forms of points.

THE PRESIDENT also presented a patient who illustrated

REFLEX OCULAR SYMPTOMS IN NASAL DISEASE.

The young woman had been treated for an affection of the eyelids by Dr. Loring, who had also prescribed spectacles for her. At the same time she complained of more or less disturbance in the nasal passages, and on examination Dr. Robinson found a number of exceedingly sensitive areas, especially in the left nasal fossa, which corresponded to the eye most affected while she was under Dr. Loring's care. These areas he had touched twice with the galvano-cautery, employing the apparatus exhibited to the Society. The first application was made three weeks ago, the second about ten days ago, and the patient stated that she was almost completely relieved from both nasal and ocular symptoms.

AURAL HALLUCINATIONS.

DR. SAMUEL SEXTON brought before the Society a case of aural hallucinations which he believed would be of interest, since the relations of *tinnitus aurium* to mental disease was liable to be overlooked, and it was probable that in some cases, where the cause of these fancied phenomena could be explained, it would allay nervous excitement. The patient is an Irishman forty years of age, who states that he has long been of intemperate habits. He has been subject to "dry throat" in the morning, to frequent headaches, and is nervous and "shaky." He stated, when he came to the New York Eye and Ear Infirmary in December, 1885, that seven months previously, after a severe "spree," he had delirium tremens, and on recovery experienced annoying sounds in the left ear; persons either seemed to be "talking to him constantly" or there were sounds of voices in this ear. At first he thought the voices heard were those of persons following him about "for the sake of a joke," but of late he believes they may be due to some disease of the ear. As regards the tinnitus, he describes a "beating" sound in the ear synchronous with the cardiac pulsation, and a "buzzing." Sometimes there is low whistling. There has been no annoying disturbance in the left ear. The utterances heard are always profane or otherwise bad, and on "giving himself up" to the delusion he believes himself to be the subject of abusive language. When he himself is not directly the subject of invectives, he is still cognizant of a colloquy between two individuals on some other topic. He cannot escape from these unbidden defamers at will, but sometimes the noises in his head are less pronounced, and then the hallucinations are also less marked. At such times he is less worried, and feels as though he "could control himself" and throw the delusions off. There are times, however, when the voices do not din so unceasingly in the ear, but then he finds himself annoyed by knocks upon his door and steps in the hall; these sometimes arouse him up out of a semi-unconscious state with a shock. He often fancies "a party in the house is playing a game on him" with an electric battery; he can hear it "click," and "it nearly shakes him out of bed, and plays on his head like a hose." Then he is annoyed by speaking and whistling through a gas-pipe or tube coming up through the floor. Sometimes he "feels a kind of dizziness through the head." He has been to a police station about this trouble. He says the "voices" always remain outside the door. One of the "voices" is a heavy "bass" voice, the other is "high and squeaky," and may be a woman's or a boy's; they are comparatively as a "tin whistle to a cornet."

The patient's attention having dwelt on this matter, the phenomena have greatly increased in importance; he now hears the bass voice in left ear, the tenor in the right one, whereas at first every sound seemed to enter the left ear.

As regards the aural condition of this patient, I may say that there is no history of any previous disease of the organ. Syphilis is denied. He has chronic catarrhal inflammation of the upper air-tract (hypertrophic). The drumheads are lustreless and somewhat atrophied, the anterior segment of both is dry and wrinkled. The left membrana flaccida is hyperæmic, and has a fleshy appearance. There are other evidences of loss of tension in the transmitting mechanism—thus there is general relaxation of the exterior parts of the ear, the skin in front of the tragus on both sides is notably relaxed, as is shown by several wrinkles. Inflation of the drum with the air-bag has caused the tinnitus to cease for ten or fifteen minutes; closure of the meatus seems to muffle the sounds heard. His own voice never sounds autophonously. Hearing is defective, ordinary voice only being heard distinctly at a distance of ten feet.

I advised the patient to find occupation, and suggested that when not at work he might find relief by keeping in the noise on the streets, etc., as much as possible. He found, however, that the noise of trucks, horse-cars, and other heavy vehicles made him worse, since the loudness of the voices heard was also increased. He found that he was much better after remaining a few days in the country.

Dr. Allan McLane Hamilton, who saw the patient, considers that he has both insane delusions and hallucinations, due to some form of chronic cerebral disease arising from alcoholism, and that he is liable to become a dangerous lunatic. He found the tongue to point slightly to one side, and the pupils to be unequal. It was thought that the ophthalmoscope might throw more light on the case than could be gained from rational symptoms, and Dr. Loring kindly made an examination. Although nothing decisive was found in the fundus, yet he thought the vessels of the left eye had a suspicious look, the veins being very large in some places and considerably tortuous; these conditions might suggest commencing trouble from tumor of the brain or gummata.

Interest attaches to this case, not from disturbance of audition from central causation, but on account of the effect of the *tinnitus aurium* upon a mind already predisposed to insane hallucinations. At first the hallucinations were notably unilateral, seemingly for the reason of greater defectiveness in the left ear. Subsequently, however, his attention was frequently directed to the probable bilateral source of the voices, and then it was that he began to fancy the sounds entered both ears.

I think there can scarcely be a doubt, if I may judge from a very considerable experience among these cases, that sounds in the head of roaring, beating or pulsating, buzzing, whistling, and the like, which are so often propagated from defective ears in subjects of both chronic catarrh and acute aural disease, may give rise to veritable insane delusions in neuropathic subjects. The changes in the transmitting mechanism of the middle ear in these subjects usually give rise to autophonia, and when these phenomena of audition occur in alcoholic or senile persons, the necessary factor in finally producing serious mental trouble may be found.

In this patient the ear disease is well marked; and it would seem that since the drumhead may present recognizable changes in many instances, perhaps in a very considerable number of mentally insane persons, a knowledge of the condition of these parts might be available in forming a diagnosis of the case as well as aiding in the treatment.

SARCOMA OF THE BRAIN.

DR. KINNICUTT exhibited a sarcoma of the brain, occurring in a boy twelve years of age, with the following history: Four other children of the same parents died

of "water on the brain." Until three weeks before admission to the hospital, February 22, 1886, the patient was reported to have been in excellent health. At this time he began to complain of pains in the calves of his legs. There were no other symptoms until February 17th, when patient complained of not seeing well. For two days before admission there had been occasional vomiting. The patient was able to walk a very considerable distance to hospital. On admission, there was bilateral ptosis; the pupils were widely dilated, and wholly irresponsive to bright light. Complete amblyopia existed. There was no more than a slight uncertainty in the patient's gait. The respirations were regular in rhythm and normal in frequency. The pulse was 78 and regular. Ophthalmoscopic examination showed well-marked atrophy of the optic nerve of the right eye, and slight tortuosity of the vessels. There was commencing swelling of the left optic nerve. There were absolutely no other symptoms than those described above, until twenty-four hours before death, when the respirations suddenly became very rapid and irregular, the pulse very frequent (160); œdema of the lungs supervened, and death ensued. On examination after death a tumor (sarcoma) was found, completely filling the fourth ventricle, encroaching (infiltrating) upon the substance of the cerebellum, and firmly adherent to the pons and medulla. Two small growths of a similar nature were found immediately posterior and adherent to the optic commissure, and also adherent to the optic tract upon either side. The tumor filling the ventricle had not been dissected from its attachments, in order that it might be shown *in situ*.

The case was of interest, as presenting few symptoms until immediately before death, in the presence of a lesion occupying the site indicated above.

Dr. Kinnicutt also read a paper (see page 381) on

THE USE OF THE ŒSOPHAGEAL TUBE IN DILATATION OF THE STOMACH FROM OBSTRUCTION OF THE PYLORUS.

Dr. W. H. Draper asked Dr. Kinnicutt if he had had any experience in the use of the hydrochloric-acid test in the determination of the presence of cancer of the stomach.

Dr. Kinnicutt said that the absence of hydrochloric acid in the gastric juices was exceedingly difficult to determine, and he had been informed that it was a delicate and a misleading process.

The President referred to cases of dilatation of the stomach without obstruction at the pylorus, mentioning especially the fact that, on the second day in one case, while passing the tube, quite a little hemorrhage followed, which probably came from the stomach. This circumstance made him doubt whether the patient was not suffering from ulcer of the stomach; but no recurrence of the hemorrhage took place, and the patient was almost entirely relieved of his indigestion.

Dr. Kinnicutt thought it not very unfrequent to have a slight amount of hemorrhage follow the first and second introduction of the tube, and he had regarded it as coming from the œsophagus rather than from the stomach. It had become his practice to use lavage in all cases of cancer of the stomach, nor did he regard ulcer of the stomach a contra-indication to the use of the tube. Certainly benefit could be gotten from its use, at least as regards temporary relief from distressing symptoms.

Of course, only the soft, flexible rubber tube and the siphon process should be used in these cases, and the tube should never be introduced except by the physician; recent hemorrhages would contra-indicate its use.

The President said that he would be loth to use the tube in a case of ulcer of the stomach.

Dr. Kinnicutt said that no case of perforation of an ulcer by the stomach-tube had been reported. The tube, when introduced, naturally seeks the most dependent portion of the stomach, and this was not the usual site of gastric ulcer. In his experience, retching and vomiting most often occurred with the passage of the tube into the œsophagus; by thoroughly spraying the pharynx with a solution of cocaine, he had found that in many cases this symptom might be avoided.

The President had noticed, however, that the passage of the tube frequently produced a great deal of retching, which he thought not unlikely to bring the ulcer in contact with its extremity.

Dr. A. B. Ball then read a paper (see p. 388) in which he reported a case of

PURPURA HEMORRHAGICA.

Dr. C. L. Dana said the patient whose case Dr. Ball had reported, entered Bellevue Hospital, and was in his wards for two days. During that time he made the diagnosis of purpura rheumatica. On the third day the house physician thought the patient was getting up erysipelas, and he was accordingly sent to the pavilion and put under Dr. Ball's care. Dr. Dana still thought the case was an atypical one of purpura hemorrhagica, and believed that there was certainly some other element in it.

Dr. Ball admitted that the case was not perfectly clear; certainly it presented unusual symptoms, and therefore it was unusually interesting; but he was unable to see what possible connection rheumatism could have with such hemorrhages except through the medium of ulcerative endocarditis, and he had been unable to find any reference at all to such a condition of things occurring in ulcerative endocarditis.

Dr. Dana said that when the patient entered the hospital there was considerable elevation of temperature, which could not be attributed to purpura hemorrhagica.

Dr. Ball thought Dr. Dana was mistaken in saying that purpura hemorrhagica is not a febrile disease; perhaps it is not in most cases, but there are many cases in which it is distinctly febrile.

Dr. Dana said that it might be febrile in the latter part of its course, but not in the earlier manifestations of the disease.

Dr. Draper thought that purpura hemorrhagica should be regarded as dependent on a variety of causes. Hemorrhagic purpura might occur in cases of cirrhotic and fatty liver; it occurs in certain essential fevers; it is not uncommon in cerebro-spinal meningitis; it is seen in a certain number of cases of malignant scarlet fever. The history which Dr. Ball had read seemed to him to be fairly that of a case of so-called rheumatic purpura. He had seen a number of these cases within the past winter. He saw one young lady who gave the history of rheumatism, became very anæmic, and afterward had hemorrhages from the kidneys, and then from the mucous membranes, without very marked but very distinct joint symptoms, who finally died from uncontrollable epistaxis. He had another case, that of a gentleman who for many years had attacks of gout, several of them accompanied by cutaneous hemorrhages, purpuric in character. This patient had cirrhotic and fatty liver, and he ultimately died with extensive purpura hemorrhagica, with connective tissue changes similar to those described by Dr. Ball.

He believed that various diseases brought about the condition of the blood-vessels which gave rise to these symptoms. Dr. Ball's case clearly began as one of rheumatic fever, and terminated, he thought, as one of rheumatic purpura.

Dr. Ball asked what connection there was between the rheumatic fever and the hemorrhages.

Dr. Draper said he did not know. We know that there is no other disease which so rapidly produces extreme anæmia as rheumatic fever, and this anæmia may be so extreme as to bring about such results as exist in the final stages of pernicious anæmia.

Dr. Ball said that Dr. Draper certainly used the term purpura rheumatica in a different sense from that in which it is ordinarily used by writers; for, purpura rheumatica is not a rheumatic affection at all. The joint affection is supposed to have an entirely different explanation.

Dr. Draper said he was aware that different explanations had been given, but he thought that he had seen the disease occur under circumstances when it was impossible to regard the joint lesions other than gouty or rheumatic, because they occurred in gouty and rheumatic persons, and with all the characteristic features.

Dr. E. Darwin Hudson, Jr., remarked as to the question whether rheumatism was a definite disease due to an acid condition, or whether it was a condition of malnutrition of the blood, that it was not easy to see how some cases would develop rheumatism, and others the more advanced changes leading to purpura. He then referred to a case which corresponded to the descriptions given of *peliosis rheumatica;* at the same time it was undoubtedly a well-defined case of subacute rheumatism. It occurred with recurrences at an interval of one year, and also in each instance it was preceded by a well-defined attack of tonsillitis. The patient was an American lady twenty-three years of age, who had an attack of acute tonsillitis about one year ago, for which she was treated by Drs. Gage and Harrison. One tonsil suppurated, and following that she developed the usual symptoms of rheumatic arthritis, with a temperature of 102° to 103° F., for several days, and then there developed the characteristic patches, which at first were red and afterward of a more livid hue, and finally, the cuticle over them became slightly raised, and the whole patch had a leathery, resisting feel. She was treated with acetate of potash and tonics, and recovered, and was entirely well for about one year. In last November she had twenty-four patches of this kind affecting the lower extremities, after having been taken with a chill, general soreness and inflamed fauces, and subsequently developed well-defined symptoms of subacute rheumatism, affecting the wrist, the elbows, knees, and ankles. During the course of this sickness the characteristic spots appeared, varying up to the size of the thumb-nail, perceptibly elevated and resisting. She was treated with salicylic acid and bicarbonate of potassium, and was well in about two weeks. The question arose whether these attacks were septic in each instance, or whether they were rheumatic.

The Society then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 10, 1886.

T. Mitchell Prudden, M.D., Vice-President, in the Chair.

Dr. Prudden presented, in behalf of a candidate, a series of microscopic sections of the spinal cord from locomotor ataxia, which illustrated

WEIGERT'S STAINING FOR THE NERVOUS SYSTEM.

Dr. W. M. Carpenter presented, for Dr. Heineman, in behalf of a candidate, a specimen of

CEREBRAL TUMOR.

It was referred to the Committee on Microscopy. [Subsequent examination showed that it was a small round-celled sarcoma.]

Dr. Eugene Hodenpyl presented specimens, with microscopic sections, with the following history:

FAULTY DEVELOPMENT OF THE PENIS AND TESTICLES.

The patient from whom these specimens were removed was a man twenty-eight years of age. He was of about the usual height and size, and had had phthisis for several years. He died after being in the hospital a few weeks. At the autopsy both lungs presented the lesions of chronic phthisis. There was a large cavity in the apex of the left lung, and several smaller ones scattered about. The other organs were normal. The penis was unusually small, and there was marked phimosis. The right testicle was lobulated, and about the size of a small almond. The epididymis was present, though very small. There was no trace of the left testicle, although a careful search was made for it, both in the scrotum and abdomen. The tunica vaginalis was present on both sides; also the spermatic cords, which were considerably atrophied. The cord on the right side terminated in the rudimentary testicle; the left one, after leaving the internal abdominal ring, gradually grew smaller, and finally became lost. The microscopic sections of both cords showed all the elements of a normal cord. The normal layers in the wall of the vas deferens could be made out in both sections. There was also a section of the testicle which contained a small amount of glandular tissue, composed of tubules lined by cuboidal epithelia, but the greater part of the mass was composed of fibrous tissue.

Dr. Prudden remarked that the specimens were interesting because the atrophied testicle was very apt to remain within the abdominal cavity.

Dr. H. J. Boldt presented

AN OVARIAN CYST,

removed by operation from J. N——, married, forty-one years of age, the mother of two children, the youngest born five years ago. Her menstruation began at the age of sixteen. While single, and until the birth of the first child (eighteen years ago), she suffered from dysmenorrhœa. Had always menstruated regularly, the flow lasting five to six days, except when pregnant or nursing. She had enjoyed good health up to about six months ago, when she noticed a heavy sensation in the pelvis, and some lumbar pains, which gradually increased in severity. When she presented herself to Dr. Boldt, February 3, 1886, she had, in addition to the above, pain in the right inguinal region, radiating down the same thigh; frequent micturition, being compelled to urinate every fifteen to twenty minutes; cardialgia; darting pain in the præcordial region; occasionally nausea; menorrhagia, the flow now lasting ten to fourteen days, and dysmenorrhœa; constipation, and when the bowels did move, it caused much pain and tenesmus. Bimanual examination showed the uterus to be remarkably anteflexed and somewhat to the left of the median line. The cul-de-sac of Douglas was filled with a tense mass, fluctuating slightly, and apparently more on the right side. In size the mass seemed to be about as large as a large orange. The diagnosis rested between a hydrosalpinx and an ovarian cyst, which was low down and not yet large enough to rise out of the pelvis.

Operation was advised, and performed on the following Sunday at her home.

On opening the abdomen the tumor, which proved to be a simple ovarian cyst, was found to occupy a position to the right and behind the uterus. No adhesions had yet formed; consequently its removal was quite easy. The other ovary seeming healthy, was left *in situ*. Recovery was rapid, the patient being out of bed on the ninth day and sitting in an easy-chair, which was more remarkable as the surroundings were anything but good. The temperature kept normal throughout. It is now a little over one month since the operation, and the patient has made a complete recovery, all her distressing symptoms having entirely disappeared.

Dr. Boldt said that the specimen was interesting, especially with reference to the age of the patient, the disturbances of menstruation, particularly the dysmenorrhœa, and as an illustration of the severity of the symptoms which may be produced by so small a growth.

It was one of six successful ovariotomies out of eight cases in patients operated upon in tenement-houses. The case also illustrated the advantage of operating early, before the formation of adhesions.

Dr. Robert Newman presented a portion of the genito-urinary apparatus which illustrated

CYSTITIS WITH HYPERTROPHY OF THE PROSTATE—PYELONEPHRITIS—DEATH FROM URÆMIA.

The patient came under observation in November, 1885. M. T. P——, sixty-seven years of age, com-

plained of pain in the bladder and difficulty of micturition. The urine was cloudy, ropy, and had a fetid odor. He had been ailing for two years in this manner, without asking medical advice. The patient has never been sick, was accustomed to all kinds of hardship, and by predilection slept upon the floor, scarcely being in bed during the last twelve years, although he had about fifty beds in his house. He was obliged to seek medical advice on account of the pain in his bladder and almost impossibility of voiding his urine, and Dr. De La Vergne, of Brooklyn, used the catheter several times; but as it was almost impossible to introduce any instrument, he returned the patient to Dr. Newman for treatment.

December 1st.—Examination: Prostate is much enlarged, encroaching both on bladder and rectum, and so sensitive that digital examination cannot be endured. The pressure makes the prostatic urethral canal tortuous in its course, displacing the urethra. The enlarged prostate fills up the neck of the bladder, being an obstacle to the introduction of a catheter, as well as the flow of urine, thereby causing retention. The bladder is full of finger-thick, ropy masses of phosphates, pus, mucus, blood, and fibrin. Spasm of the bladder caused pain and completed the obstruction. Ordered rectal suppositories of extract of belladonna.

December 3d.—With great difficulty a guide was introduced, over which a tunnelled catheter, No. 9, French scale, passed into the bladder. The instrument was obstructed by pus, blood, and mucus; but by suction and washing out bladder with warm water considerable urine was withdrawn, so that he could void urine again in a small stream, or by dribbling away.

December 8th.—Catheter No. 18 passed with difficulty.

December 12th.—Catheter No. 23 passed easier. Bladder was washed out without causing any hemorrhage.

December 19th.—Catheter No. 23 passed very easily. There is marked improvement. Extract of colocynth is added to the suppositories to relieve constipation, and belladonna given in the medicine to allay pain.

December 23d.—The colocynth added to the suppositories acted well by keeping the bowels normal. Catheter No. 23, French, passed into the bladder easier than ever. Bladder was washed out with a solution of sulphocarbolate of zinc. There is marked improvement, and the patient passed water voluntarily.

January 6, 1886.—The treatment has been interrupted by the sickness and death of patient's wife; thereby patient's condition had become worse. Nevertheless, catheter could be introduced and bladder washed out.

January 8th, 12th, 15th.—On each occasion bladder was washed out by a double canula catheter, No. 23, which passed into the bladder easily, while Mercer's invaginated catheter failed. Patient feels better; voids urine voluntarily, and is improved in every way.

January 16th.—Patient is worse, having neglected himself. During the cold spell he remained in a cold room without a fire, sitting up without being in a bed. He is very feeble, the prostate so congested that no catheter could be introduced.

January 17th.—Dr. Newman visited him in Brooklyn. Patient was weak. After some efforts patient was relieved; took milk-punch, and was left in good spirits at 5 o'clock P.M. At 10 o'clock a sudden collapse took place. Dr. De la Vergne was called, and found patient becoming comatose, evidently suffering from the effects of uræmia. He was sinking fast, and died comatose at 2 o'clock in the morning, January 18th. Autopsy was held on January 19th, thirty hours after death.

The kidneys were found entirely disorganized, of an amyloid appearance; the pelvis was dilated and enlarged to about three times the normal size, and filled with pus. It is evident that the kidneys could not perform their functions, and that uræmia was the cause of death. The ureters were also very much dilated and filled with pus. The bladder was enlarged and thickened, but not to such a degree that the cystitis could have been a cause of death. On the contrary, the mucous lining shows that treatment has improved the condition of the bladder, so that the mucous membrane looks now nearly healthy. The prostate gland is much enlarged, and one part of the third lobe can be seen to obstruct the passage of the urine at the neck of the bladder by tilting over just into the opening of the urethra into the bladder. This state shows plainly why retention occurs, and when these parts are irritable and congested it makes catheterism almost impossible. All the other organs were normal.

Dr. H. Marion Sims presented a small

FIBROID OF THE OVARY

removed from a patient, thirty-four years of age, who had suffered for a number of years with profuse menorrhagia, menstruation occurring regularly and lasting nearly three weeks. It was evident that she had a fibroid of the uterus, and to arrest its growth Dr. Sims determined to remove the ovaries. On opening the abdomen he found a fibroid tumor, about four times the size of the normal uterus, attached to one side of that organ, and, with the ovary on the right side, he removed the small fibroid presented, which was interesting on account of its rarity of situation.

Dr. Sims also presented several specimens of what, for lack of more positive knowledge, he called

ABDOMINAL NEUROMATA,

removed by operation from just beneath the skin of the abdomen of a woman who had always been healthy, was married at the age of seventeen, immediately began to suffer from extreme vaginismus, which was relieved completely by removal of the hymen. Her nervous symptoms disappeared and she remained well for three or four months, when she became pregnant, and in the second month began to complain of severe pain in the region of the left ovary, which increased in severity as pregnancy advanced, and in the sixth month she began to have the most violent hystero-epileptic convulsions, occurring from once or twice a day to one every four or five days. The only relief afforded was from the inhalation of nitrite of amyl. Finally the child was born in July last, but instead of relief coming, the pain increased in severity, and then Dr. Sims found that the left ovary was considerably enlarged and cystic, as was also the right ovary somewhat. With Dr. C. C. Lee in consultation, it was determined to remove the left ovary, which was done, Dr. Lee assisting, and it was found to be about three times the normal size and filled with cysts; the right ovary, being diseased, was also removed. The patient recovered from the operation, the convulsions and pain in the head ceased, and it was thought that all her trouble had been overcome. But about two weeks afterward she began to complain of violent pains in places over the abdomen, about the size of a silver ten-cent piece; getting better in one place and appearing at another; and, finally, there were so many of them that Dr. Sims injected cocaine, and made an incision into the worst one of these painful spots, and removed four little knot-like bodies, about the size of bird-shot and small peas. The patient recovered from this operation, and had no more pain whatever up to about six weeks ago, when she was suddenly attacked with abdominal pain which presented the features of peritonitis, and she was treated for peritonitis. The pain gradually diminished in severity, became more localized, and finally centred in one spot on the right side of the abdomen, where Dr. Sims found another of these little button-like masses, which he incised, and removed a nest of these peculiar shot-like bodies. The pain ceased at once, and the patient recovered from the operation promptly.

The specimens were referred to the Committee on Microscopy.

DR. PUTNAM-JACOBI presented specimens which illustrated

PULMONARY CONSOLIDATION — ENLARGED BRONCHIAL GLANDS—PRESSURE UPON ONE OF THE RECURRENT LARYNGEAL NERVES—HEART-CLOT.

They were removed from the body of a German child, three and a half years of age, whom she saw two days before its death, when she learned that it had suffered three months from pertussis, and that during the last six weeks the health of the child had manifestly declined. Three weeks before death, when the child was brought to the dispensary, where Dr. Daniel saw it, the parents said that it could not walk; but on examination it was evident that the inability to walk was due to general weakness rather than to any definite cause. Two days before death there were extensive bronchial râles, with evidence of pulmonary consolidation. There was present, however, almost complete aphonia. There was an area of distinct dulness on percussion over the upper lobe of the left lung, with absence of vesicular murmur, and with remote bronchial breathing. So far as could be ascertained there had been no fever. On account of the absence of fever she interpreted the physical signs as meaning atelectasis rather than pneumonia. There was no evidence, on percussion, of enlargement of the glands at the root of the lung, although there was a certain amount of lividity about the face that would lead one to suspect pressure upon the right jugular vein. The apparent condition of the lung did not explain the aphonia. No evidence could be obtained to warrant the conclusion that the child had at any time had diphtheria. The child died suddenly.

Autopsy revealed in the upper lobe of the left lung an abscess in the midst of caseous pneumonia, with other patches of ordinary broncho-pneumonia, and in the lower lobe atelectasis. There was nothing of special interest in the right lung. All the glands at the root of the lung were enormously enlarged and cheesy. Where the inferior left recurrent nerve curves around and crosses the aorta, an enlarged gland has pressed upon it, and thus the aphonia was explained. In this respect, therefore, the case was analogous to Parrot's, in which the diagnosis of aneurism at this point was made from the presence of aphonia and unilateral paralysis of the vocal cord.

The probable order of events in the case was engorgement of the glands at the root of the lung, subsequent cheesy degeneration, making the point of departure for the cheesy pneumonia which was present, and which had apparently developed within six weeks. The immediate cause of death was minute coagula, which intertwined about the cardiac valves, particularly marked around the tricuspid. Nothing was found in the larynx.

DR. PRUDDEN remarked that it was not the rule for caseous material to break down as described.

DR. R. O. MASON asked if the minute coagula really had anything to do with the death of the patient.

DR. PUTNAM-JACOBI thought that the tendency of opinion among pathologists was toward the older view that such clots might be the immediate cause of death.

DR. JOHN J. REID presented a specimen of

PERFORATION OF THE CÆCUM FROM PERITYPHLITIC ABSCESS,

with the following history:

A married Bohemian woman, twenty-three years of age, was admitted to the Charity Hospital suffering from pain and swelling in the right gluteal region. She said that four months previously she was delivered of a child, and one week subsequently complained of severe pain in the region of the womb and pelvis, which extended over the sacro-iliac synchondrosis. At this time her legs and ankles swelled, and assumed a glistening, white appearance. This swelling disappeared; but with this disappearance there was an increase of pain in the right iliac region. On admission to hospital, January 6, 1886, there was severe pain in the right iliac fossa, extending outward toward the sacrum. Her left leg was swollen, glistening, white, and solid to the touch. The right side over the gluteal region was swollen, and strongly suggested the presence of pus. None could be obtained, however, by an exploring needle. Poultices were applied, and five days afterward pointing was detected to the right of the promontory of the sacrum. From the opening made at this point a large amount of pus escaped, carrying with it some grape-pits. This settled the question of diagnosis. A drainage tube was inserted, and antiseptic injections used. It was deemed expedient to make an exploratory incision, but the patient persistently declined permission, and there was nothing left but to carry on the ordinary washing-out treatment of the sinuses. Death occurred from exhaustion a month after admission. Autopsy twelve hours after death. Nothing worthy of special note was found, except in the abdominal cavity.

On exposing these organs the viscera were in normal position and of normal appearance, omentum fairly loaded with fat, more than the general bodily appearance would indicate. On searching for the cæcum, etc., the usual peritoneal adhesions were greatly exaggerated, the lower end of ileum, cæcum, and ascending colon firmly bound to posterior wall of abdomen; the appendix vermiformis short, club-shaped, three-quarter inches in diameter. On removing the intestines and separating the adhesions above described, two perforations of the cæcum, about two inches apart and one-eighth inch in diameter, were found, which openings communicated by sinuses with a large cavity beneath the skin above mentioned, extending from the upper opening, a little to the right of the second lumbar vertebra, upward one inch toward the median line, and from thence downward to the iliac crest, embracing an area shaped like a half-circle, containing a small amount of yellowish fœtid pus. The appendix vermiformis presented no communication with the cæcum, and contained a canteloup or cucumber seed considerably eroded. The cæcum was very much thickened, the mucous membrane containing points of superficial ulceration. The ileo-cæcal opening was reduced by this thickening to half its diameter. The other portions of intestine were normal; kidneys slightly enlarged, cortices thickened, capsules non-adherent.

One point of special interest was the fact that if an opening had been made at the crest of the ilium near the synchondrosis, the finger could have been carried down to the cæcum, and would have reached the perforation.

DR. VAN SANTVOORD presented specimens with the following history:

URETHRAL STRICTURE—CYSTITIS — PYELO-NEPHRITIS — SEPTIC ENDOCARDITIS.

M. M——, seventy-three years of age, was admitted to Randall's Island Hospital, December 2, 1885. He was suffering from a deep urethral stricture, through which only a filiform bougie could be introduced. His urine contained one-eighth albumen; condition otherwise fair. On January 6th, several days after passing a bougie, he had chill, fever, and headache, with pain in the left side of the loins. The next day he had no fever, headache was less, and he felt well. On the third day he had fever, headache, vomiting, tongue dry in centre, urine diminished in quantity, containing one-fifteenth albumen, no casts, and considerable pus. On the fifth day stiffness of the neck, pain in attempting to bend it forward, and a pressure over the nucha, and pain in joints of the left arm, were superadded. A soft systolic murmur was heard over the apex, not transmitted. Subcrepitant râles over both lower lobes, patient somewhat delirious. On the sixth day, pain on moving head or limbs was more marked; no swelling or redness of joints visible; direct pressure was noted on the seventh day as causing pain in the left wrist and ankle-joints. On this day twitching

in almost all the muscles of the body, with some rigidity, were noted. A few bluish spots (ecchymoses) observed on chest and abdomen. Fæces and urine were passed involuntarily. The patient passed into coma, and died on the morning of the eighth day after his first chill, which was the sixth of his continuous febrile temperature.

Autopsy.—Several small hemorrhage spots, the size of a pea, in skin. The brain showed four hemorrhages about the size of a ten-cent piece in the pia of the cerebral convexities. On the convexity of the right lobe of the cerebellum was a clot three-fourths of an inch long by one-eighth wide, dipping down one-half inch into one of the sulci. Vessels at base slightly atheromatous. Spinal cord was normal. The lungs were œdematous and congested. The heart was normal in size. The right cavities were normal. The aortic valve showed slight chronic thickening. About one-third of the ventricular surface of the posterior leaflet was coated with an irregular fibrinous mass. The same process involved a small part of the adjacent end of the right leaflet, and ran down on the endocardium for about one-third inch. The endocardium at the edge of the process was infiltrated with blood. The mitral valves showed a patch of grayish recent fibrin, about the size of a small pea, on the auricular surface of each leaflet, affected portions of the leaflets coming in contact when the valve was closed. There was general old thickening of the valve. The aorta showed slight atheroma; size normal. Spleen: Slightly enlarged and soft, capsule extensively thickened, and substance contained two dark infarcts with an area of softening. Kidneys: The left kidney was about one-half larger than normal. Its fat capsule was indurated. The capsule proper stripped easily, showing the body of the organ dotted over with small yellow spots with congested areolæ. The cut surface showed many yellow streaks and dots in the pyramids, and also in the cortex. The same appearance was shown by the right kidney, but not so extensively; it was not so large as its fellow, and contained a cyst the size of a cherry-pit. There was no apparent lesion of the ureters and pelvis. The bladder was contracted; its walls were two-thirds of an inch thick; its mucosa was thrown into ridges, was thickened, and showed great injection and small hemorrhages. At the bulbo-membranous junction of the urethra was a marked narrowing of the canal, which readily admitted an ordinary groove director passed from the bladder. A pocket, one-eighth of an inch in diameter existed in the floor of the urethra, immediately in front of it. The stomach was somewhat dilated. Its mucosa showed a number of small, black, superficial hemorrhages. Several hemorrhages, the largest the size of a twenty-five cent piece, were seen in the mucosa of the colon. The left wrist, shoulder, and ankle-joints were opened, but showed no obvious lesion.

In this case the initial chill occurred several days after the introduction of a filiform bougie into the bladder by a careful house-physician, who takes good care of his instruments. It seems questionable whether this had anything to do with the setting in of the process. The question is raised, if the bougie was the bearer of septic poison, as to how long a time may elapse between septic inoculation by catheterism and the development of symptoms.

A second point of interest was the fact that, although the cystitis and the widely diffused lesions in the kidneys seemed to point to the urinary organs as the point of entrance of the poison, yet the ureters and pelves of the kidneys were apparently normal. This he had seen once before in a somewhat similar case. The third point of interest was the marked resemblance of the case, during the last two or three days of life, to one of cerebro-spinal meningitis, the stiff neck, opisthotonus, pain on moving neck and limbs, and delirium being very deceptive. As the cord and the joints showed no lesion, the pain, etc., seemed to be only the arthralgias due to septic poisoning. The heart lesion could not be connected with the systolic apex murmur heard during life.

Dr. Prudden said that if the specimen had been in alcohol the question of presence of endocarditis could be settled by examining the exudate for bacilli. He had seen six or seven cases where general infection occurred, and the ureters and kidneys were skipped entirely. It was sometimes difficult in these cases to discover the source of infection because of the great extent of surface affected.

Dr. Prudden then presented a specimen of

CARCINOMA OF THE CERVIX UTERI INVADING THE BLADDER, OCCLUDING THE OPENINGS OF BOTH URETERS, AND CAUSING HYDRONEPHROSIS AND PYONEPHROSIS.

He was indebted for the specimen and clinical history to Dr. E. R. Lyon, resident physician to Charity Hospital. The patient was a German female, seventy years of age. On admission she complained only of a little cough, and was very feeble; she was stupid, and at times mildly delirious. She was not much emaciated, but had a sallow, cachectic appearance; no fetid discharge was noticed from the vagina. She gave the physical signs of bronchitis. There was considerable œdema of lower extremities. The pale alkaline urine had a specific gravity of 1.010, and contained two and one-half per cent. of albumen. It contained pus in considerable quantity. She remained in the same stupid condition, and died suddenly four days after admission. Autopsy: Heart, normal; lungs, bronchitic. The pelvis and ureter of the left kidney were filled with pus. The kidney substance was somewhat encroached upon by the accumulation of pus in the pelvis.

The right kidney was converted into a thin-walled sac, 12 ctm. long, 9 ctm. wide, and 5.5 ctm. thick, with internal partitions representing the original calyxes. There was a thin layer of kidney substance lining the sac. The right ureter was completely occluded as it entered the bladder, and was dilated to a diameter varying from seven millimetres to two centimetres. The pelvis and ureters together contained 300 c.c. clear amber urine, sp. gr. 1.010, containing no albumen, but considerable numbers of hyaline casts, fatty epithelial cells, and ordinary urinary and cholesterin crystals.

The cervix uteri was completely ulcerated away. The body of the uterus was small, and infiltrated with white, soft, irregular masses of new tissue. The left ovary was small, and not involved in the new growth. The right ovary was concealed in a nodular mass of hard new tissue, which attached the uterus to the bladder.

At the base of the bladder, over the seat of the new growth, was an ulcer 2 ctm. long by 1½ ctm. wide, with slightly raised edges and a grayish smooth surface.

It was the new tissue at the base of the ulcer which had caused the complete occlusion of the right ureter and the partial occlusion of the left.

Microscopical examination of the new growth showed it to be *carcinoma*.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, March 8, 1886.

STEPHEN SMITH, M.D., CHAIRMAN.

Dr. W. B. De Garmo read a paper (see p. 386) entitled

THE PALLIATIVE OR MECHANICAL TREATMENT OF HERNIA, WITH ILLUSTRATIVE CASES.

Dr. V. P. Gibney said he had been a trifle disappointed that the author of the paper had not gone into the subject of the radical cure of hernia by mechanical appliances, because he had been looking for radical cures by means of the truss, and yet, in common with the bulk of the profession, he had doubted the existence of very many radical cures by any kind of truss. It was well known that certain truss-makers in this city advocated the radical cure, and it was also believed by medical gentlemen that

such cases did occur, and, as evidence on this point, he could cite one case he saw in 1884, with a distinct inguinal hernia, and to which he adjusted a truss that held it for a while and then failed to accomplish its purpose. He then took the patient to a truss-maker, who made an instrument and applied it, and the patient wore it for two or three months, when it also failed to afford relief. The patient then disappeared from his observation, and he saw nothing more of him from 1884 until a few days ago, when he met him and was told that he went to a down-town man two or three times a week, for three months, in the summer of 1885, had a truss adjusted that cured his hernia so that he had not been obliged to wear a truss in three or four months. Dr. Gibney said that the patient was a very active man, and that he also regarded him as truthful in his statements, although he had not had opportunity to examine the case personally.

The cure by injections was on the same principle that the Germans had employed other substances, such as alcohol once or twice a week for several weeks, and had reported good results.

With regard to reducible herniæ, he had seen a large number of cases in which taxis was not dangerous, and he believed that intelligent taxis could be employed with safety and good results. He did not, therefore, advocate as early operation as some of his surgical friends.

His firm belief was that fully ninety per cent. of the cases of hernia occurring in infants could be cured within twelve months by wearing any truss with a pad which fits sufficiently well to retain the hernia. His inflexible rule was to reduce the hernia, adjust a truss which could not be taken off by the parents, and aim to so retain the hernia that it should never be seen after its first reduction. During the first month he saw his patient once in two or three days; after that at much longer intervals.

Dr. F. D. Weisse said that hernia, both from an anatomical and a surgical standpoint, had been with him a favorite subject of study. It was certainly the opprobrium of surgery that so many cases of hernia went unrelieved, and had been turned over to the treatment offered by those who had no special knowledge of the condition of the parts involved.

His own view was that not sufficient consideration had been given to the causes of hernia, and that the area of support should extend over the entire hypogastric and opposite inguinal regions. Dr. Weisse then spoke of the anatomy of the inferior third of the abdominal parietes, and he thought that anatomical considerations would support the deduction that this whole area contributed to the cause, increase, and perpetuation of hernia.

The tip of the index-finger, when adjusted against the protruding contents, was sufficient to give perfect support, and this was the principle involved in the various forms of pads. But in addition to this, he believed that the lower part of the abdominal parietes should be thoroughly supported. To secure this he referred to the application of a plaster-of-Paris cast to the lower third of the abdomen while the patient was in the recumbent posture, being careful at the same time to know the exact point at which the pad of the truss should be applied.

He also thought that too little was taught with reference to taxis, and too much said against it. Unfortunately, in very many instances it was improperly applied, but when intelligently employed he thought it was a very great adjunct in the management of herniæ.

With regard to hernia with undescended testicle, he had seen several cases in which a useless testicle was the result of the application and the wearing of a truss.

It was a new point to him that a truss could be worn without danger when the hernial tumor was composed of omentum, and he regarded it as a point well worthy of special study. Dr. Weisse then referred to the value of percussion in determining the character of the contents of the hernial tumor. He would also ask Dr. De Garmo if there was a definite time at which he regarded it safe to leave off the truss.

Dr. John C. Peters said that, up to the present discussion, he had been of the opinion that the entire subject of hernia had retrograded since forty or fifty years ago, at which time Amos G. Hull, Sr., was the man in this city who paid most attention to this subject. He was the first to use the long arm of a spring in front from the side opposite to the hernia; who used a broad sacral pad, and was especially careful to mould his springs to the shape of the body; who insisted that the truss should never be removed until the patient was lying down, and that the patient should never get up until after the truss had been adjusted; who used a convex pad surrounded by a ring; who employed an abdominal support; who applied a truss for a descended omentum; and who used a truss with success in the treatment of varicocele. The exact form and mode of adjusting the truss in these cases he had been unable to ascertain.

Dr. F. A. Burrall said that he had been led by his experience in the direction of the remarks made by Dr. Weisse, that there had been a lack of adaptation in the use of mechanical appliances. He believed that the abdominal bandage should be applied more often than it had been, for it divided the support and it was a very great addition to the comfort of the patient. He regarded prophylaxis as an important factor, especially in the way of timely support of the abdominal parietes after exhausting illness.

Dr. A. Jacobi had always been under the impression that no bandage or truss would ever cure hernia in the adult. On the other hand, he fully agreed with what Dr. Gibney had said concerning hernia in children. When an infant wears a truss for one or two years in succession, and protrusion of the intestine does not take place during that time, he regarded it as a certainty that the hernia had been cured. To accomplish this a truss is required which retains the hernia and exercises gentle pressure on the soft parts. It had not been his practice to keep the truss on during the night, except when the child had a cough.

Dr. Stephen Smith stated that it had not been his fortune to see many cases of cure of the herniæ of adults, either by means of the truss or operative procedures. He used the term cure in the sense that the profession generally understand it, viz., such a cure that the patient can with impunity dispense with the truss altogether. The reason for this failure seemed to him to be due to the fact that a hernia in an adult indicates a loss of integrity in the lower abdominal walls, which cannot be compensated by any changes which a truss or an operation can secure. All he ever contemplated accomplishing with a truss in an adult was the easy, but constant, retention of the bowel within the abdominal cavity. This is a great gain to the patient, for, as the enlargement of a hernia depends upon a gradual lengthening of the mesentery, the natural support of the bowels, the more effectually the bowels are retained within the abdomen, the less is the disposition of those organs to descend, owing to the tension of the mesentery. As to the various operations for the radical cure of hernia, he had performed many of them, and had yet to see any such results as would warrant the removal of the truss at a given date with the certainty that the hernia would not return. He had seen them well after six months, but the larger number returned within a twelvemonth after the patient dispensed with the truss. In practice, he had come to believe that when a hernia appears in an adult, a properly adjusted truss was to be worn the rest of the patient's life, whether an operation was performed or not. There is no doubt that the operations are useful, but in his own practice, whatever operation was performed, he insisted upon the patient's wearing a light-fitting truss continuously after the cure was apparently completed. He recalled a conversation with Dr. James R. Wood, who frequently operated, in which Dr. Wood stated that he regarded the continuous use of the truss as an essential part of the after-treatment in all operations. He also

recalled a statement of Mr. Banks, of Liverpool, who has had a large experience in operations upon herniæ, to the effect that the term "radical cure" is misleading. The popular belief, in the opinion of this surgeon, that a patient upon whom a radical cure has been performed need never again wear a truss, nor ever again be in danger of his hernia coming down, was, in his experience, far from being true, and the instances where a light truss can be dispensed with are in the minority. He says very pertinently that to determine results we should see the patient one year after he left off his truss, and learn what he has been doing meantime. Dr. Smith regarded the truss as the great palliative measure on which reliance must be placed after a hernia once appears in an adult, and hence the necessity of the greatest care in the selection of these instruments. One kind of truss cannot be adapted to all cases, and great skill and experience are necessary in the selection for each individual patient.

Dr. De Garmo said he had not spoken of the radical cure of hernia because it was his purpose to consider that in another paper, and he had restricted himself, therefore, to the palliative cure of hernia. As this point had been brought up, however, he would say that he thought skilled mechanical appliances would cure as large a percentage of herniæ as any operation performed in these days. It was this fact which enabled quacks to obtain their certificates.

With regard to hernia in infants, he regarded cure as certain when proper treatment was instituted, by means of mechanical appliances, any time prior to ten years of age, and he did not regard the recumbent posture as essential to effecting this cure. Doubtless it aided, but it was not necessary. He thought it just as well to delay the treatment of hernia in children by mechanical appliances until the child was three, four, or five years old.

With regard to supporting the lower part of the abdominal parietes, it seemed to be well in theory, but he had not found it so valuable in practice, for there were cases in which such support seemed to press the contents of the abdomen downward and interfere with retaining the hernia by means of a truss.

With regard to the use of a plaster-of-Paris cast, he noticed this method when it was first published, but he was unable to see how it could be made available in the treatment of hernia.

With regard to the removal of the truss, he judged entirely by the condition of the parts; there could be no prescribed limit of time with reference to its removal. He thought that Dr. Peters was in error in ascribing the cross-body spring to Hull, because Sir Astley Cooper had mentioned this spring as the invention of Solomon Ody, in 1803.

With reference to the treatment of varicocele, Curling had recommended a truss for the radical cure of varicocele arranged so as to make direct pressure over the external abdominal ring. He continued the use of the truss during the night in the treatment of hernia in children, because they were so liable to have the hernia protrude as the result of crying or change of position, etc.

Dr. Jacobi referred to the use of pads filled with air, as he had recently seen one which seemed to work very well, and he would ask Dr. De Garmo if he had had any experience in the use of this form of pad.

Dr. De Garmo said that the air-pad was not being used very much now, but the water-pad was used somewhat. Both, however, had been almost entirely discarded.

Dr. W. M. Carpenter said that, from the remarks made by the author of the paper, and also by Dr. Weisse, it might be inferred that direct inguinal hernia did not exist. If correct in this inference, he would like to place upon record a case which came under his observation several years ago. A man about sixty years of age had had a knuckle, perhaps the size of a walnut, in the right groin for several years, but it gave him no inconvenience up to the time when he lifted a large basket of potatoes into his wagon. He then felt that he had strained himself in this region, and immediately began to suffer from pain referable to this small knuckle, which he at once discovered was slightly increased in size. His family physician saw him a few hours afterward, and reached the conclusion that the swelling was a hernia which had become strangulated. He endeavored to reduce it by taxis, but failed. He then called consultation, and taxis was again resorted to, but failed. Every effort at taxis increased rather than diminished the size of the tumor; the taxis was made as for indirect inguinal hernia. At the end of three days it was decided that relief could not be afforded the patient, except by surgical interference, and Dr. Carpenter was asked to perform the operation He found a small sausage-shaped tumor in the right inguinal region, and, after the usual incisions had been made, he discovered that the opening through which the mass of omentum (omentocele) protruded was the external abdominal ring. The constriction was readily relieved, and the contents of the hernia, in a viable condition, were returned to the abdominal cavity.

The patient recovered from the influence of the ether, conversed intelligently, but, as a precautionary measure against the occurrence of an inflammatory process, a dose of opium, equivalent to twenty drops of laudanum, was administered. About six hours afterward the patient began to manifest some symptoms of stupidity, afterward became unconscious, and died comatose at the end of about twenty-four hours.

Post-mortem examination did not reveal any apparent cause of death. All the organs were apparently healthy. The hernia had been completely reduced, it could be distinctly seen that it had protruded from the external ring, and there was no evidence whatever of inflammation. The wound had united almost entirely.

Dr. Weisse said he did not wish to be understood as saying that direct inguinal hernia did not occur; but he thought it exceedingly rare, and he had never seen a case.

Dr. De Garmo thought it possible that a good many cases of so-called direct inguinal hernia were ventral in character.

Dr. John C. Peters offered resolutions with reference to the death of Alfred C. Post, M.D., LL.D., which were seconded by the Chairman, and unanimously adopted.

The Section then adjourned.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 14, to March 27, 1886.

Cochran, John J., Assistant Surgeon. Ordered for duty as post surgeon, Fort Mason. Cal. S. O. 18, Department of California, March 15, 1886.

Polhemus, A. S., Assistant Surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 18, Department of California, March 15, 1886.

Hoff, John Van R., Captain and Assistant Surgeon. Ordered from Department of California to Department of Missouri. S. O. 60, A. G. O., March 13, 1886.

Official List of Changes in the Medical Corps of the U. S. Navy during the week ending March 27, 1886.

Martin, H. M., Surgeon. Detached from Independence and ordered to the St. Louis.

Guiteras, D. M., Passed Assistant Surgeon. Detached from Navy Yard, Pensacola, and wait orders.

Ross, J. W., Surgeon. Detached from special duty, New York, and ordered to Pensacola.

Eckstein, H. C., Surgeon. Detached from the St. Louis and placed on sick leave.

Means, V. C. B., Assistant Surgeon. Detached from the Vermont and ordered to the Shenandoah.

Beaumont, N. H., Surgeon. Detached from the Enterprise, and wait orders.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 15 NEW YORK, APRIL 10, 1886 Whole No. 805

Original Lectures.

ON CERTAIN PROBLEMS IN THE PHYSIOLOGY OF THE BLOOD-CORPUSCLES.

THE CARTWRIGHT LECTURES, DELIVERED BEFORE THE ASSOCIATION OF THE ALUMNI OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, MARCH 23, 1886.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.

LECTURE II.

DEGENERATION AND REGENERATION OF THE CORPUSCLES.

THE conception of the blood as a fluid tissue, the corpuscles representing the cells and the plasma the matrix, is not a very happy one, as both cell elements and matrix present peculiarities unknown in any other tissue. Rather is it to be regarded as an internal medium, to use Bernard's phrase, bearing the same relation to the constituent tissues as the external medium does to the individual.

In spite of local variations, the composition and characters of the blood present a remarkable uniformity, the result of the combined action of the receptive, excretory, and formative tissues, which are concerned in the digestion and absorption of food, in the discharge of waste, and in the renewal of worn-out elements.

The maintenance of the histological uniformity of the blood is absolutely dependent upon the integrity of these processes. In health the waste and repair of the corpuscles are not accompanied by any striking or obvious phenomena. The corpuscles present a remarkable sameness, and we cannot pick out with readiness the old elements ready to die, or the new ones which have just made their appearance. This it is which makes the blood such a puzzle, for the corpuscles, so far as observation goes, neither die nor are born in the circulating fluid, but appear to enter it as perfect elements, and are removed from it before they are so changed as to be no longer recognizable.

That the red corpuscles in health are constantly degenerating and as constantly being reproduced, is universally acknowledged, though the facts upon which this belief is based are not very numerous. There is evidence that the coloring matters of the bile and of urine are derived from the hæmoglobin, and to supply their daily amount many corpuscles must be destroyed, and to replace which new ones must be formed. The variations in number at different times and under different conditions indicate that waste and repair are ceaseless processes. Moreover, there is the direct evidence in the presence of degenerating red corpuscles in certain organs, spleen and bone marrow. Our very imperfect knowledge of the details of degeneration and regeneration of the corpuscles in health has been supplemented to some extent by experiment and by the study of the blood in disease, and I propose in this lecture to touch upon the salient features of these processes so far as we at present understand them. As it is difficult to separate the two conditions, which in many instances coexist, I shall first take up the consideration of the state of the corpuscles in anæmia, as induced either by increased destruction or loss of the corpuscles, or as it results from scanty production. The loss may be sudden, as from hemorrhage or acute poisons, or be a slow, gradual process, as in fever and chronic poisoning. Anæmia from imperfect production of cells may result from primary changes in the cytogenic tissues, or be a secondary effect of imperfect nutrition; but in either case the reduction in the number of the red corpuscles is by far the most important change, and upon this the symptoms mainly depend.

In health the red corpuscles present a remarkable uniformity in size, or perhaps it is more correct to say that the variations which occur are within very narrow limits. The large proportion of the corpuscles have a diameter of 7.5 μ, but there are a few to be found which measure a micromillimetre less or more, 6.5 or 8.5 μ. These slightly smaller and slightly larger forms are not numerous in normal blood, not so numerous, I think, as Hayem's[1] researches would indicate, for he places the medium-sized at seventy-five per cent., the smaller forms at twelve per cent., and the larger at twelve per cent. Gram,[2] who has made a number of careful observations on this point, finds the average diameter to be a little more than 7.5 μ (7.8 μ), but the percentage of corpuscles of less or greater diameter varies greatly in different individuals. In the new-born, and for some time after birth, the maximum and minimum diameter of the red corpuscle presents a much wider range, the variations being from 10.3 μ to 3.3 μ. One of the most striking alterations of the red corpuscles in certain diseased states is a reversion to this embryonic or infantile condition, with a variation in the size of individual corpuscles to a degree which is truly remarkable. Instead of an extreme variation of 2 μ as in health, the range between the smallest and largest forms may be from 8 μ to 10 μ, or even more. Thus, minute corpuscles may be measured from 2.5 μ to 3.5 μ, while contiguous cells may be as much as 10, 12, or even 14 μ. To these abnormal forms the terms microcytes and megalocytes have been appropriately given.

Mycrocytes occur normally in the blood of the embryo (Fig. 10, *b*) and new-born, but are rarely to be seen in a healthy adult. In disease they are most abundant in

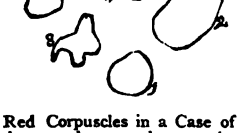

FIG. 1.—Outlines of Red Corpuscles in a Case of Profound Anæmia. 1, 1, Normal corpuscles; 2, large red corpuscle—megalocyte; 3, 3, very irregular forms—poikilocytes; 4, very small, deep-red corpuscles—microcytes.

anæmia, whether from hemorrhage or as a result of changes in the cytogenic organs, or secondary to disease of important viscera. When the attention of observers was first directed to these bodies it was thought that they might be of diagnostic import in certain forms of anæmia, but we know now that they occur—in variable numbers, it is true—in all forms, in chlorosis, splenic anæmia, pernicious anæmia, leucæmia, Hodgkin's disease, and in the anæmia of

[1] Leçons sur les Modifications du Sang, 1882.
[2] Fortschritte der Medecin, 1884.

cancer, phthisis, and other chronic affections. I must say, however, that so far as my personal experience goes I have not met with them so uniformly or so abundantly in any condition as in those cases which we designate by Biermer's name of progressive pernicious anæmia. In what may be called the primary anæmias they are almost invariably to be found, while in the secondary form they are variable and may be absent. There is unfortunately a difference of opinion as to the nature and origin of the microcytes, some regarding them as disintegrated remnants of corpuscles, others as young forms in process of development. Possibly both views may be correct. The small, spherical bodies of a deep red color, 1.5 to 2.5 μ in diameter, should, perhaps, be distinguished from the forms slightly larger, more distinctly discoid, and less deeply tinted. That they may result from changes in the ordinary red corpuscles is, I think, certain. I have frequently noticed that they appeared to increase in a slide kept for observation. They resemble, too, particularly the small, deep-red ones, the fragments into which the red cells disintegrate under the influence of the induction stream and of various solutions. In a freshly prepared slide of anæmic blood, firm pressure on the top cover will sometimes be sufficient to produce a large number of microcytes which result from the destruction of the red corpuscles by pressure. They may, indeed, be observed in process of formation as shown at Figs. 2 and 3. Normal blood in Pacini's fluid does not often show

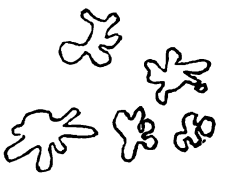

FIG. 2.—Extreme Poikilocytosis in Blood from Anæmic Patient, examined in Pacini's Fluid. It illustrates also a possible mode of origin of the microcytes.

special changes in the form of the corpuscles, but the corpuscles, in cases of profound anæmia, may become in it very irregular in outline and deeply fissured, as sketched at Fig. 2, and portions may separate and appear in the field as microcytes. In the bone-marrow, too, I have often noted a somewhat similar process (Fig. 3),

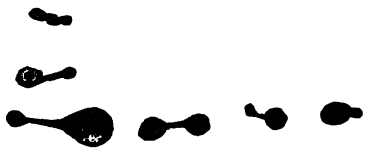

FIG. 3.—Origin of Microcytes from Red Corpuscles by Process of Budding and Fission. Specimen from red marrow.

and by a sort of budding and fission many small forms may arise. These microcytes are not always to be regarded as a result of post-mortem change—they may be seen in blood examined with the greatest possible rapidity after removal. Whether the slightly larger form of microcytes, from 2.5 to 5 μ, and which are often less deeply tinted, arise in the same way, is still an unsettled question. They occur with the others, but are regarded, as I shall point out later, by many good observers as developing forms.

The *megalocytes* have attracted less attention than the smaller forms, but are equally curious. The term may be applied to forms above 8.5 μ or 9 μ in diameter. They may reach an extraordinary size, 12, 14, and even 15 μ. They are very constant elements in cases of pernicious anæmia, and also occur in chlorosis and leukæmia. Gram[1] has made the interesting observation, which I have been able to confirm, that these forms occur in numbers of cases of icterus. He also states that ordinary red corpuscles placed in icteric serum (of ascites in cirrhosis) seem to increase somewhat in size. We may call to mind in this connection the peculiar lemon or subicteroid tint of the skin in many cases of pernicious anæmia, and possibly there may exist in the blood-serum some element—the product of destruction in the hæmoglobin—which may act upon the red cells and cause them to assume a more flattened form. These megalocytes often show the most eccentric changes in outline, to which I shall shortly refer. When I speak of the development of the corpuscles, I shall return again to these forms.

In the normal red corpuscles regularity in outline is not less constant than uniformity in size, but in the blood of the various anæmias we now recognize the loss of this character as a very distinctive feature. Here, also, many of us erred in supposing this condition to be peculiar to pernicious anæmia, the disease in which these irregular forms were first accurately described. Quincke called them *poikilocytes*, a term which has been very generally adopted. At Figs. 1 and 2 this condition is represented. The corpuscles may present the most remarkable shapes, ovoid, elongated, pyramidal, balloon-shaped, with indented edges, or rods straight or bent at right angles. Many of these bizarre forms are scarcely recognizable at first as red corpuscles. I still hold that we meet with these forms in a more extreme degree in cases of a pernicious anæmia than in any other disease, but they occur also in the anæmia of phthisis, cancer, and inanition. This is a physical change depending probably upon alterations in the blood-serum. It is not induced in the healthy corpuscles by dilution of the serum or slight grades of concentration, or by any of the reagents which tend to produce crenation. In Pacini's fluid the corpuscles of anæmic blood may sometimes be observed to become much more irregular in form (Fig. 2).

Percentage of hæmoglobin.—We know as yet little or nothing of the processes associated with the production of the coloring matter of the corpuscles. In a state of health the percentage of hæmoglobin in each cell is tolerably definite, varying within very slight limits. In diseased conditions we have learned to recognize two remarkable changes in the relation of the coloring matter of the corpuscles. One is the observation made some years ago by Duncan (1867) that the hæmoglobin in chlorosis was reduced out of proportion to the reduction of the corpuscles, so that the individual worth of each red corpuscle in coloring matter might be very greatly lowered. The true anæmia might be much greater than the number of red corpuscles per cubic millimetre might indicate. Subsequent researches have fully borne out this fact, for which, however, we have as yet no suitable explanation. The pallor of the corpusles may even be recognized with the microscope. In ordinary anæmia from hemorrhage or organic disease, the average worth in hæmoglobin of each corpuscle usually remains unaltered, and the percentage of coloring matter corresponds closely with the percentage of the corpuscles; but in certain cases of pernicious anæmia the interesting fact has been ascertained that the percentage of hæmoglobin in each corpuscle is increased, and the anæmia in reality may not be so great as the reduction in the number of red corpuscles would appear to indicate. The individual worth of each corpuscle in hæmoglobin may be actually doubled, and the heightened color be evident on microscopic examination. These two facts, intensely interesting and suggestive, may be said to comprise our knowledge of the changes in hæmoglobin percentage in the corpuscles in disease, and they serve as a background against which to display our ignorance of this most essential feature in hæmatogenesis.

Nucleated red corpuscles.—In anæmic states there may be present in blood nucleated red corpuscles such as normally occur in the blood of the embryo, and such as are present in the red marrow of the bones. I have not met with these elements so frequently as the statements of certain observers (Ehrlich) would lead us to suppose. Certainly they do not occur in all cases of

[1] Fortschritte der Medicine, Bd. ii.

profound anæmia. I have met with them in leucæmia in larger numbers than in any other state (Fig. 4). They present characters identical with the nucleated red cells, which I shall speak of shortly in connection with the regeneration of the corpuscles. They are usually a little larger than the ordinary red corpuscles, and the tint may be slightly paler. The nucleus may be seen in process of division, and I have seen corpuscles

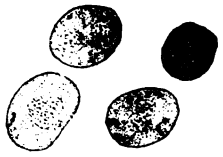

FIG. 4.—Nucleated Red Blood-corpuscles from Blood in case of Leucæmia.

in process of fission identical in appearance with those long ago described and figured by Kölliker as occurring in the blood of the embryo. They may not infrequently be found in groups of three or four, close together, or even in contact, as if the group had resulted from the division of a single corpuscle. I was particularly struck with this feature in one case of leucæmia in which they were very abundant, and I regard the explanation just given as a very likely one in the light of the recent observations of Bizzozero upon the rapidity of the process of division in these red forms. That they originate in the bone-marrow there can be no doubt, and in my experience it is just in those conditions in which this tissue is hyperplastic that they occur in the blood.

A rare and odd element in the blood is the *corpuscle containing red blood-corpuscles.* Several observers have noticed the presence of red cells inside colorless corpuscles in the circulating blood. It is very uncommon, and the sketches at Fig. 5 represent the only examples which I have met with. Considering the abundance of these cells in the marrow, spleen, and lymph-glands in certain states, it is surprising that we do not find them more often in the blood. It is quite possible, however, that the colorless corpuscle circulating in the blood may itself take up a red cell into its interior, just as it may an oil-drop or a particle of pigment. I have a sketch of a colorless corpuscle of the

FIG. 5.—Corpuscles containing Red Blood-corpuscles. 1. From blood of child at term. 2. From blood of a leucæmic patient.

blood of the frog, with three or four human red corpuscles in its interior which it had *eaten.* I have sought in vain, in chronic malaria, for evidence that the leucocytes in the blood take the corpuscles entire into their interior in the formation of the black pigment. They would appear to take in the disintegrated particles, possibly in the spleen and liver, but not the entire cells.

It is interesting to compare the sketch I have thus given of the state of the corpuscles in anæmia with the condition of the blood in the acute anæmia following a profuse hemorrhage, either accidental or experimentally induced. With our present knowledge, there is a really serious difficulty in deciding just what features of the blood indicate degeneration and what a process of regeneration. Thus, the microcytes, as I have stated, are regarded by some as evidence of a retrograde process, by others as indicating repair of the waste. In an animal deprived of one-third of the amount of blood, or in an individual after a severe prostrating hemorrhage, the changes noted are almost identical with those already described. 1st. The red corpuscles display irregularly in size and shape. The microcytes are numerous and resemble in all respects those of chronic anæmia. The larger forms of red corpuscles are not so constant. Poikilocytes also occur. As the percentage of red cells approaches the normal, these irregularities diminish in a marked manner. 2d. The colorless corpuscles are relatively, and may be even absolutely, increased in number. This doubtless is the result, in part, of a relatively smaller loss in white corpuscles in consequence of their adhesive, wall-loving property, and in part to the flooding of the blood-current with leucocytes poured in with the copious flow of lymph which takes place to make up the volume of blood. 3d. The nucleated red corpuscles may appear. In the experimentally induced anæmia in animals (dogs) they are more abundant than after profuse hemorrhage in man (cirrhosis, hæmoptysis). 4th. There is a marked increase in the number of the blood-plaques.

Regeneration of the corpuscles.—There is probably no subject in physiology upon which opinions differ more widely than in the mode of formation of the corpuscles—particularly the red—after birth. The possibility of a solution of the question seems to have been offered in the discovery of the blood-forming function of the red marrow by Neumann and Bizzozero, and the positive assertions of Hayem regarding the blood-plaque

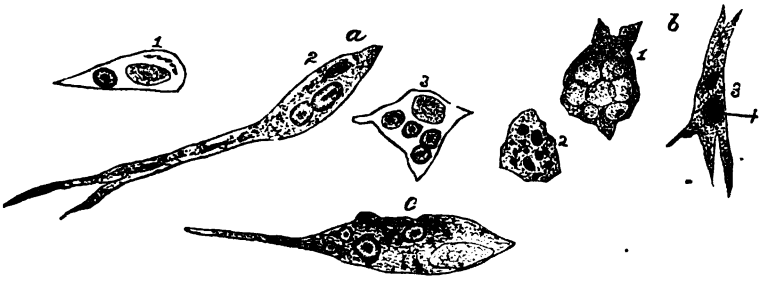

FIG. 6.—*a.* 1, 2, 3, Spleen-cells containing Red Blood-corpuscles. *b.* From marrow; 1, cell containing nine red corpuscles; 2, cell with reddish granular pigment; 3, fusiform cell containing a single red corpuscle. *c.* Connective-tissue corpuscle from subcutaneous tissue of young rat, showing the intracellular development of red blood-corpuscles.

and its connection with regeneration have served to arouse again the interest in this important question.

I propose to lay before you briefly a statement of the current views, as interpreted in the light of more recent investigations, and I shall first direct your attention to the study of the formation of red corpuscles in the *bone-marrow.*

I begin with this, as I here feel more at home, having for some years been an observer of this tissue in various states, and having arrived at certain conclusions which

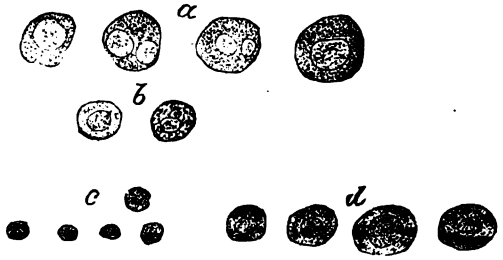

FIG. 7.—Cell-elements of Red Marrow. *a.* Large granular marrow-cells. *b.* Smaller, more vesicular cells. *c.* Free nuclei, or small lymphoid cells, some of which may even be surrounded with a delicate rim of protoplasm. *d.* Corpuscles with clear, translucent protoplasm.

appear to me justifiable. The red marrow, which in the new-born and young child occupies the bone-cavities of the entire body, is confined in the adult to the cancellæ of the short and flat bones, but even with this limitation the entire bulk is very great, and if massed as one organ would exceed considerably the volume of the spleen. Without entering into preliminary histological details on the structure of the marrow, which are now incorporated in the text-books, I shall proceed at once to the consideration of the cell-elements of this tissue. With a fine capillary pipette, a small quantity of the soft red marrow is placed upon a slide without

any reagent and a thin cover applied with gentle pressure so as to procure a layer of uniform thinness. The plasma of the marrow is usually quite sufficient, and there is serious objection to the addition of any reagent, as the delicate-colored stroma of many of the cells may be at once altered. I feel sure that neglect of this precaution, so strongly emphasized by Neumann, has time and again prevented observers from seeing the very objects they were in search of, and they have ended with a denial of their existence (Rutherford, "Histology"). Examined in this manner we can usually see the following elements: 1. Ordinary marrow-cells (*a*), with coarsely granular protoplasm (Fig. 7, *a*), coarser-looking than that of a colorless blood-corpuscle. The nuclei may not be apparent at first, but they gradually become distinct, two or three in number, oval, round, or reniform in shape and vesicular in character. On the warm stage these elements display feeble amœboid movements.

b. Smaller cells about the size of colorless corpuscles, with more solid nuclei and less granular body protoplasm; they are not so numerous as the larger cells and some of them may be colorless blood-corpuscles.

2. Marrow-cells (9 to 12 μ in diameter) with smooth homogeneous protoplasms (Fig. 7, *d*) and finely granular nuclei, indistinct on first examination, but becoming more apparent in a few minutes. The protoplasm surrounding the nucleus is translucent, homogeneous, colorless, and variable in amount. There may be a single large nucleus surrounded by a narrow rim, or there may be a dumbbell-shaped nucleus, or it may be divided into two or even three. The process of indirect division of the nucleus can be well traced in these forms. Certain of the cells may present the faintest possible tint of color, and as they are carried about among the other corpuscles they show a peculiar flexibility.

3. Small lymphoid elements, resembling free nuclei; solid-looking, homogeneous, 2.5 to 5 μ in diameter (Fig. 7, *c*). They resemble the smallest lymph-corpuscles, but about many of them no distinct rim of protoplasm can be seen. In others there is a faint border of protoplasm. These bodies are variable in number, but they may be regarded as constant elements of the red marrow. Identical structures may be found in the spleen (Fig. 11, 4). They are well described by Norris as the "primary lymph-cell."

4. Nucleated red corpuscles, which we may regard as the special element of the red marrow, and which are present at all periods of life, Fig. 8, *a*. They range in size

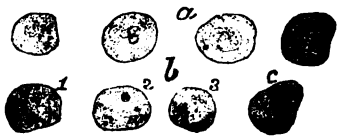

FIG. 8.—Nucleated Red Cells of Marrow. Illustrating mode of development into the ordinary non-nucleated red corpuscle. *a*, Common forms of the colored nucleated cells of red marrow; *b*, 1, 2, 3, gradual disappearance of the nucleus. *c*, large non-nucleated red corpuscle resembling 2 and 3 of *b* in all respects save in the absence of any trace of nucleus.

from 6 μ to 12 μ, and are circular or slightly ovoid in shape. When freshly examined the protoplasm is homogeneous, clear, and the nucleus indistinct. The color

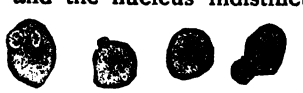

FIG. 9.—Nucleated Red Corpuscles. Illustrating the migration of the nucleus from the cell, a process not infrequently seen in the red marrow.

is of all grades up to the intensity of an ordinary red corpuscle. As they float about in the current they show the flexibility and elasticity of the ordinary colored forms. The nucleus may be simple and large, and is frequently seen in all stages of division. It is not colored. In certain cells there are appearances which indicate that the nucleus undergoes changes prior to disappearing, becoming granular and indistinct. In some specimens the nucleus can be seen adherent to the edge of the cell, as if in process of migration from it (Fig. 9), and bodies of a similar appearance may be seen in the immediate vicinity of the red cells.

5. Red corpuscles of ordinary form and appearance. Upon their abundance or paucity depends the color of the marrow. In addition to the usual biconcave disks there are commonly megalocytes, especially if the marrow is hyperplastic, and a variable number of microcytes. The larger corpuscles are, I think, more frequent than the smaller ones.

6. Myeloplaques or giant-cells, the description of which need not detain us, and

7. Corpuscles containing red blood-cells (Fig. 6, *b*, 1). Some of these are evidently collections of red corpuscles undergoing disintegration to form the cells containing granular pigment (Fig. 6, *b*, 2), while others, resembling rather the giant-cells (Fig. 6, *b*, 3) may possibly bear a different interpretation.

The chief interest centres in the nucleated red corpuscle of the marrow and of the spleen. From what does it originate? What is the process of its conversion into the ordinary red disk? All are agreed as to its importance in blood-making. It is the earliest red corpuscle in the embryo; it is constant in the cytogenetic tissues of all animals, and it would be unreasonable in the highest degree to suppose that in the red marrow of the adult it was present for any other purpose. Moreover, in states of anæmia and after bleeding, the nucleated red corpuscles increase in the bone marrow, and even appear (overflow) in the blood; and lastly, Bizzozero has watched the process of division, which may occur with remarkable rapidity, within fifteen minutes. My observations lead me to regard the nucleated red corpuscle as the product of transformation of the clear-bordered homogeneous marrow cell, as all grades of tint can be seen, between cells with scarcely a trace and strongly colored forms. There is no essential difference apparent in the body protoplasm; in both it is smooth, flexible, and translucent. It is not difficult to outline corpuscles in series from those without a trace of color to forms well and clearly tinted. The colorless marrow cells with clear-bordered protoplasm appear to be the descendants of the solid lymphoid cells—the primary lymph-corpuscles, the protoleucocyte — which gradually becomes surrounded by a zone of homogeneous protoplasm. Certainly intermediate gradations can be seen between the forms figured at Fig. 7, *c*, and the smaller corpuscles at Fig. 7, *d*. The process of transformation of the nucleated red into the ordinary forms occurs, I believe, by the gradual disappearance of the nucleus, as shown at Fig. 8, *b*, 1, 2, and 3. It seems impossible to draw any other conclusion from a study of such cells, and the small granular remnants which they contain may be the sole means of distinguishing them from ordinary red corpuscles. Very many observers have recorded the fact of the migration of the nucleus from the cell, and it may be seen in all stages

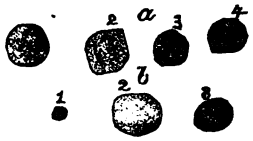

FIG. 10.—Blood of Embryo, Four Months. *a*, 1, 2, 3, 4, Nucleated red corpuscles; in 4 the same granular, disintegrated appearance of the nucleus as in marrow-cells; *b*, 1, mycrocyte; 2, megalocyte; 3, ordinary red corpuscle.

of the process, as represented at Fig. 9, but I have not been able to convince myself that this is anything but a post-mortem change. Certainly in the fresh marrow there are not nearly so many corpuscles with nuclei partially extruded as in a specimen kept for twenty-four hours. Rindfleisch regards this as the normal mode of transformation, and we need additional careful observation on the point. In favor of the view that the nucleus undergoes disintegration is the fact that a similar process

may be traced in the nucleated red blood-cells of the embryo, as shown at Fig. 10 *a*; and as the cells are identical in appearance, and probably in origin, this may be regarded as strong confirmative evidence. Bizzozero, whose careful study of this question entitles his opinion to the greatest consideration, regards the nucleated red corpuscle as a fixed and constant element derived, by fission, from pre-existing forms of the same kind, and not by any process of development from colorless cells of the marrow.

The nucleated red corpuscles are slightly larger than ordinary blood-corpuscles, and in size resemble the megalocytes which are usually abundant in the bone-marrow. Such a cell as is represented at Fig. 8 *b*, 4, differs in appearance from those at *b*, 1, 2, 3, solely in the absence of nuclear remnants. In the further process of development into the ordinary red corpuscle we must suppose condensation of the stroma and a change from a flattened cell to a biconcave disk. In anæmia the megalocytes which may be so abundant in the blood are to be regarded as imperfectly-formed corpuscles, which, from causes as yet unknown to us, have not attained their proper form.

Possibly in other ways the spleen and marrow elements may participate in the blood-formation. I have already referred to the process of budding which may be seen in certain of the red cells of the marrow (Fig. 3) and also of the spleen, and Malassez looks upon these gemmæ as capable of development into ordinary red forms.[1] The difficulty is one of interpretation; the process can be readily followed, but, as I mentioned, it is probably a physical change.

Within the large myeloplaques, and also in the elongated cells of the stroma of the marrow, there can be seen, occasionally, red corpuscles, which suggest *development*, not *disintegration*, inasmuch as the corpuscles are in smaller number and show no traces of degeneration. They are figured at 6 *a*, 1, 2, 3, from the spleen, and at 6 *b*, 3, from the marrow. I have been struck with the close resemblance of such cells to those in the subcutaneous tissue of the young rat, in which the process of intracellular development of red corpuscles can be readily traced, as shown by Mr. Schäfer. Fig. 6 *c* represents one of these connective-tissue corpuscles with four developing red cells in its protoplasm. It is quite possible that in the reversion to the embryonic or fœtal state of the bone-marrow these cells may resume their hæmatogenous function, which seems to be a widely-distributed property in the protoplasm of mesoblastic (parablastic?) elements.

The relation of the plaque to blood-formation is still undetermined, and the most diverse views prevail among those who have studied the question. Hayem argues that they are the true *hæmatoblasts*, and the red corpuscles arise directly from them, basing his opinion upon the following grounds: 1, The shape of the plaque is discoid, resembling a miniature blood-cell; 2, the faint tint of color which he says may be observed in them; 3, the remarkable gradations in size which they present, so that a complete series of forms may be traced from the smallest plaque to a common blood-disk; 4, their paucity in the healthy adult, their abundance in the young, and in all conditions in which blood-formation is rapidly going on; 5, their occurrence in the cells of the blastoderm. These views of Hayem have met with active opposition from a large majority of the observers who have studied the blood-plaque. I have never been able to detect coloration in the plaque, but, in the larger forms, the pale gray-white aspect of the protoplasm seems most distinct. I cannot see any connection between the blood-plaque and the ordinary microcyte, which is of a deep red tint, even when as small as the smaller plaques. The larger microcytes, 4–5 μ, which are usually paler in tint, have a homogeneous and distinctly colored stroma, precisely similar to the red corpuscle, and unlike plaques of the same size. Fig. 11 gives a representation of a

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FIG. 11.—From spleen. 1, Blood-plaques, colorless and varying a little in size; 2, microcytes of a deep red color; 3, two ordinary red corpuscles; 4, a solid, translucent, lymphoid cell or free nucleus.

group of elements from the spleen with the blood-plaques, five or six in number: 1, are of various sizes, and presented a pale, faintly granular protoplasm; at 2 were seen two microcytes, resembling more closely miniature blood-disks than the form represented at Fig. 1 and 4, but though resembling in size the larger plaques, the appearance is totally different, and forms intermediate between them are not seen. A strong point in Hayem's theory is the abundance of the plaques under the very conditions in which the corpuscular production goes on rapidly: (1) in the embryo and new-born, (2) after hemorrhages, (3) in the stage of convalescence from acute diseases. So, also, in chronic wasting diseases, and in certain forms of anæmia, their prevalence may be reasonably explained by failure to develop into more mature forms. We enter here the region of hypothesis, and it must remain for future observers to determine the precise position of the plaque in the development of the corpuscles. There is remarkable unanimity of opinion among those who have lately worked at the subject, to the effect that the evidence is at present altogether insufficient. Afanassiew is an exception, but he holds that the plaque develops into the nucleated red blood-corpuscle, the nucleus of which is in turn extruded and becomes a plaque.

The observations of the past ten or twelve years have led us away from the old view that the red cells are derived from the colorless corpuscles. Except in the mode I have indicated in the marrow, there is no evidence in favor of the conversion of the colorless blood-corpuscles into colored forms, and the opinion is gaining ground daily that they constitute separate elements with important functions quite apart from regeneration of the red cells. They constitute so many masses of primitive or basis protoplasm which may be called upon in the repair and reproduction of tissues and in the healing of wounds. They act as scavengers—*phagocytes*—in the removal of dead parts, or enclose injurious particles in their interior, and so render them inert. The leucocytes of the body have been compared to a standing army ready to resist invasion, and inflammation, in which they play such an important part, is but a battle by which they protect the organism against injurious agents, such as micro-organisms. The researches of Metschnikoff, Tavelowsky, and others, have so materially widened our conception of the functions of the colorless corpuscles, that we can regard with equanimity their displacement from the duty so long attributed to them of acting as progenitors of the red corpuscles.

After all, the most solid acquisition to our knowledge of the process of regeneration of the corpuscles, is the participation in the adult of the bone-marrow, and the development of the red corpuscles from its nucleated colorless cells. Here we seem to tread on a firm pavement of carefully observed and well-worked-out facts. There are minor details yet in dispute, which the next few years will see settled. Doubt and uncertainty still exist as to how far in the adult the spleen shares in the

[1] Creighton has described the formation of colored corpuscles in blood-cysts by budding from embryonic cells lining their walls, and a few years ago Johnstone maintained (Seguin's Archives, vol. vi.) that the red cells developed by budding from the granular protoplasm of the adenoid reticulum of the spleen and lymph-glands.]

process, and some good observers (Neumann) would deny altogether the post-natal formation of red corpuscles in it, but I think the evidence is sufficient to show that it shares this important function with the marrow.

We shall find, as our information on the subject deepens, that the regeneration of the corpuscles follows the laws governing the regeneration of tissues in general. In the adult body there are permanent and transitory tissue-elements, and to the latter the blood-corpuscles undoubtedly belong. The nutrition of the former is entirely interstitial, and does not involve any change in the element, when once fully developed. Of transitory elements the epidermic tissues are the best examples. The epithelium is in constant process of regeneration, and the shedding of the superficial cells is analogous to the destruction of the older red corpuscles. The new growth takes place by the constant fission and multiplication of the cells of the deeper part of the *rete mucosum*, and if the entire thickness of a portion of the epidermis is removed by accident, the remnant of the cells adherent to the corium repair the loss. Just so in the life-history of the blood-corpuscles, which are fleeting structures, like the epithelial cells, the hæmatogenous tissues—spleen, bone-marrow, lymph-glands—contain as permanent elements cells which, by fission, multiply and pass into the blood-current, more or less modified, as the red and white corpuscles.

The recent increase in our knowledge of the changes in the corpuscles in disease, and of the processes of reproduction, is an earnest of fuller information in the near future. A key to the solution of many problems in pathology will, I doubt not, here be found, but in seeking it let us not forget that the corpuscles float in the blood-plasma, the pathological relations of which await investigation, and offer a field for research which should be equally fruitful in advancing our knowledge of the ultimate processes of nutrition, and of those deviations from it which lie at the very root of so many chronic diseases.

Original Articles.

INTUBATION OF THE LARYNX IN FIFTEEN CASES OF DIPHTHERITIC CROUP, IN THE SERVICE OF JOS. O'DWYER, M.D.

REPORTED BY DILLON BROWN, M.D.,

RESIDENT PHYSICIAN NEW YORK FOUNDLING ASYLUM.

By intubation of the larynx we mean the insertion through the mouth into the larynx of a tube devised and perfected by Dr. Jos. O'Dwyer, of New York. The whole tube is completely contained within the larynx and trachea. The upper end rests upon the ventricular bands, and does not interfere with the functions of the epiglottis. The lower end is about half an inch from the bifurcation of the trachea.[1]

In all our cases we have uniformly inserted the tube to relieve suffering, without regard to the hopeless condition of the patient. No child has been allowed to die of layrngeal obstruction, although the tube was never inserted until the dyspnœa was most urgent.

CASE I.—Albert L——, aged three years and two months; diphtheria of larynx, pharynx, and posterior nares; albuminuria; recovery. (See report of case by Dr. O'Dwyer, *New York Medical Journal*, November 28, 1885.)

CASE II.—John E——, aged sixteen months; diphtheria of larynx and pharynx. Autopsy showed that pseudo-membrane extended from pharynx to the most minute bronchi. (See report of this case in *New York Medical Journal*, November 28, 1885.)

CASE III.—Herbert W——, aged one year and eleven months; diphtheria of larynx and posterior nares; severe rickets; double broncho-pneumonia; albuminaria; convulsions. This patient has rickets, and has never been able to walk or even stand alone. The post-nasal diphtheria began October 28th, and several days after this he had German measles, which lasted two days. He began to cough croupy November 4th, and signs of laryngeal obstruction soon showed themselves.

November 5th.—The dyspnœa grew progressively more severe, and at 5.15 P.M. it was excessive—extreme restlessness, deep sinking in of the lower end of the sternum, and cyanosis. Dr. O'Dwyer inserted one of his tubes, and the child, after coughing twenty minutes, fell into a quiet sleep. Temp., 102°; pulse, 138; resp., 24.

November 6th.—Slept quietly all night. He takes semi-solid food well, but has some difficulty in swallowing liquids. Temp., 103°; pulse, 192; resp., 36. P.M.: Temp., 103.2°; resp., 42. At 9.30 P.M. (twenty-eight hours after its insertion) the tube was coughed out and followed by a large amount of ropy, stringy mucus. It is rare for the tubes now in use to be coughed out, and in this case it was probably due to the thick, tenacious character of the mucus.

November 7th.—At 2 A.M. the characteristic croupy symptoms returned. 9 A.M.: Temp., 103°; pulse, 196; resp., 28. 7 P.M.: Temp., 103°; pulse, 180; resp., 48. The laryngeal obstruction gradually increased. At 7:30 P.M. the dyspnœa was extreme, and Dr. O'Dwyer was compelled to reinsert the tube (twenty-two hours after its removal).

November 8th.—Temp., 104°; pulse, 180; resp., 64. He is restless, and there are deep recessions above the clavicles and in the epigastrium. At noon the tube was removed, and a longer one inserted. The tube was coated with a tenacious ointment of nitrate of silver, 3 j. to the ℥ j., in order to excite more vigorous coughing, which it did, and gave relief. P.M.: Temp., 102.1°; pulse, 150; resp., 36.

November 9th.—A.M.: Temp., 104.5°; pulse, 185; resp., 60. Slept well last night. Takes a fair amount of food. At 3 P.M. the tube was removed, four days after its first insertion. Physical examination shows an extensive double broncho-pneumonia. Much prostration. P.M.: Temp., 103.2°; pulse, 168; resp., 50.

November 10th.—A.M.: Temp., 103.3°; pulse, 168; resp., 54. The nasal discharge has stopped, and there has been no return of the croupy symptoms. P.M.: Temp., 103°; pulse, 168; resp., 60.

November 11th.—A.M.: Temp., 103.5°; pulse, 168; resp., 59. P.M.: Temp., 103.2°; pulse, 180; resp., 58. No signs of laryngeal obstruction.

November 12th.—Urine contains a large amount of albumin. No casts found. During the night he had a convulsion, and this morning another one, in which he died at 9.15 A.M., nearly three days after the removal of the tube, and the disappearance of all croupy signs.

Autopsy.—Extensive double broncho-pneumonia. Pleura hemorrhagic, and shows in places coating of fibrine. Interstitial emphysema of inner portion of left upper lobe. Bronchial glands enlarged. Trachea and larynx congested; trachea shows pseudo-membrane down to second division of bronchi. Kidneys not enlarged, markings fairly distinct. Liver congested. Other organs normal.

CASE IV.—Bessie L. H——, aged three years and two days; *diphtheria of larynx; albuminuria; double pneumonia.*

November 6th.—The first croupy signs appeared this morning, when she had a severe spasmodic attack of dyspnœa. After this had subsided there remained marked laryngeal obstruction, which grew worse very rapidly, and at 10.45 A.M. it was excessive. Dr. O'Dwyer inserted one of his tubes, which was expelled in fifteen minutes; but its use was followed by marked relief. Temp., 102°; pulse, 150; resp., 36. The char

[1] For a description of the instruments and their use, see New York Medical Journal, August 8, 1885, and November 28, 1885; THE MEDICAL RECORD, February 21, 1885; Chicago Medical Journal and Ex., June and November, 1885, and March, 1886; Archives of Ped., November, 1885; and Journ. of American Medical Association, February 6, 1886.

acteristic croupy symptoms returned immediately, and at 8 P.M. the child was suffering severely for air. Dr. O'Dwyer reinserted the tube, coated with a tenacious ointment of nitrate of silver, 3j. to ℥j., and left the string attached, by which it was removed in twenty minutes. It was applied in order to find out whether its astringent effect would enable the patient to dispense with the tube for several hours. But the obstruction returned rapidly, and the tube was reinserted at 10 P.M. The relief was immediate and the child fell asleep. Temp., 102°.

November 7th.—A.M.: Temp., 103°; pulse, 180; resp., 54. Sleeps quietly and takes a large amount of food. Physical examination shows abundant bronchial râles on both sides of the chest. Urine contains twenty per cent. albumin by bulk. P.M.: Temp., 105°; pulse, 160; resp., 54.

November 8th.—A.M.: Temp., 105°; pulse, 180; resp., 54. Urine contains 33⅓ per cent. of albumin by bulk. At 4.15 P.M. the tube was removed, but it was necessary to reinsert it at 5 P.M. She gradually failed, and at 10.30 P.M. died quietly—two and one-half days after first insertion of the tube.

Autopsy.—Larynx: Pale; some œdema of the folds; no pseudo-membrane. The lower half of the trachea contained a moderate amount of pseudo-membrane, extending into the second division of the bronchi. Trachea and bronchi intensely congested. Lungs: Œdema; extensive bronchitis; pneumonia of both lungs posteriorly. Kidneys: Congested, firm; markings distinct. Brain not examined. Other organs apparently normal.

CASE V.—Sammy W——, aged three years and four months; tuberculosis; diphtheria of larynx, pharynx, and posterior nares; albuminuria; pneumonia.

November 21st.—Patient had a post-nasal and pharyngeal diphtheria, from which he was convalescent November 26th. But his temperature remained high and irregular, varying between 104.2° and 98° Fahr. Copious perspiration and frequently delirium. Pulmonary tuberculosis suspected.

December 13th.—Temp., 99°; pulse, 144; resp., 42. A croupy cough this morning. Pseudo-membrane has reappeared in the pharynx.

December 14th.—A.M.: Temp., 99.8°; pulse, 114; resp., 26. A fetid, bloody nasal discharge. P.M.: Temp., 102°; pulse, 168; resp., 24. Severe catarrhal conjunctivitis.

December 15th.—Otorrhœa. Pulse, 150; resp., 22.

December 22d.—All pseudo-membrane gone from pharynx.

December 28th.—A.M.: Temp., 103.5°; pulse, 180; resp., 36. P.M.: Temp., 101°; pulse, 180; resp., 23. Since last entry the temperature has varied between 105° and 101° Fahr. The cough has been more or less croupy. To-day the respiration became obstructed, and at 11.45 P.M. there was extreme dyspnœa. Dr. O'Dwyer inserted a tube, with complete relief. The boy coughed about fifteen minutes and fell into a quiet sleep.

December 29th.—A.M.: Temp., 102°; pulse, 144; resp., 30. P.M.: Temp., 103.1°; pulse, 180; resp., 28. No signs of laryngeal obstruction. At 11 P.M. (nearly twenty-four hours after its insertion) the tube was removed, and its calibre found free.

December 30th.—A.M.: Temp., 103.5°; pulse, 180; resp., 36. Slept fairly well last night. The dyspnœa slowly returned, and at 11 A.M. it was severe. The tube was reinserted (twelve hours after its removal), and gave immediate relief. P.M.: Temp., 104.5°; pulse, 168; resp., 34. At times marked delirium. Copious sweating of head and body. At 10.30 P.M. the tube was removed.

December 31st.—A.M.: Temp., 102.5°; pulse, 156; resp., 36. P.M.: Temp., 103.4°; pulse, 162; resp., 34. Moderate laryngeal obstruction.

January 1st.—A.M.: Temp., 103.5°; pulse, 156; resp., 29. The obstruction progressively increased, so that at noon it was excessive. At 12.10 (one and one-half day after its removal) the tube was reinserted, and the patient fell asleep in the nurse's arms. During the afternoon marked dyspnœa appeared. A larger and longer tube was inserted, and this gave relief. P.M.: Temp., 103.5°; pulse, 156; resp., 38. No dyspnœa.

January 2d.—A.M.: Temp., 104.8°; pulse, 156; resp., 60. At times delirious. Physical examination shows a broncho-pneumonia of left lower lobe; much prostration. Urine contains albumin, fifty per cent. by bulk, and hyaline and fine granular casts.

January 3d.—A.M.: Temp., 105.2°; pulse, 162; resp., 56, and irregular. At 10 A.M. the tube was removed (five and one-half days after its first insertion). P.M.: Temp., 104.8°; pulse, 158; resp., 54. No dyspnœa.

January 4th.—A.M.: Temp., 105°; pulse, 156; resp., 66. About 3 P.M. the pulse was imperceptible, and the condition of the boy was that of extreme collapse. He rallied somewhat, and at 7 P.M. temp. was 104°; pulse, 156; resp., 76. No pseudo-membrane visible; no croupy symptoms.

January 5th.—Delirious all night. A.M.: Temp., 106.2°; pulse, 163; resp., 84. P.M.: Temp., 105°; pulse, 180; resp., 79. He slowly grew weaker and died quietly at 11 P.M.—two days and a half after the removal of the tube.

Autopsy.—Larynx, trachea, and bronchi, to about third division, contain a thin layer of pseudo-membrane. Superficial ulceration of mucous membrane of trachea, where lower end of tube came. Lungs: Lower two-thirds of left lung very firm, and marked infiltration of the small bronchi; recent diffuse pneumonia; less consolidation of the right lung, but in addition there are several tubercular cavities size of a bean; tubercular peri-bronchitis. Bronchial glands small, but contain tubercles. Kidneys: Moderate swelling of the epithelium of the convoluted tubules; size about normal. Heart, liver, and spleen normal. Stomach, intestines, and brain, not examined.

CASE VI.—Katie H——, aged three years and four months; diphtheria of larynx and pharynx; pneumonia.

December 11th.—Yesterday her voice was hoarse. During the night she became croupy, and to-day the cough and inspiration present the characteristic croupy signs. Temp., 98°; pulse, 144; resp., 30. Tonsils and fauces are red and swollen, but no pseudo-membrane can be seen. Cervical glands enlarged. No nasal discharge. The dyspnœa grew progressively more severe, so that at 3.35 P.M. Dr. O'Dwyer inserted the tube, which gave immediate relief. P.M.: Temp., 102.2°; pulse, 138; resp., 34.

December 12th.—A.M.: Temp., 103.8°; pulse, 150; resp., 48. Both tonsils covered with pseudo-membrane.

December 13th.—A.M.: Temp., 102°; pulse, 150; resp., 38. P.M.: Temp., 103.2°; pulse, 174; resp., 60. Physical examination shows bronchial respiration on both sides of chest. A few subcrepitant râles on right side after coughing. Nostrils dilate on inspiration.

December 14th.—About 2.30 A.M. she became restless and had some dyspnœa; but she soon grew quiet, and died at 4 A.M.—two days and a half after insertion of the tube.

Autopsy.—Pharynx, larynx, trachea, and bronchi, to fifth division, contain pseudo-membrane. In the lungs the membrane can be traced to the fifth division in some bronchi, and only to the second in others. Glands along trachea, above bifurcation, enlarged, and several of them cheesy. Lungs: Much œdema and congestion. Small masses of pneumonia. Pleural exudate of delicate adhesions, more marked over the seat of the pneumonia. Spleen, liver, and kidneys normal. Mesenteric glands enlarged. Moderate catarrh of the intestines.

CASE VII.—Vincentine W——, aged three years and six months; diphtheria of larynx and posterior nares; pertussis; pneumonia; albuminuria. Two weeks ago she had a broncho-pneumonia, from which she is now convalescent. She has whooping-cough.

December 21st.—The characteristic croupy symptoms were well marked at noon. The pharynx is swollen and red, but no membrane can be seen. P.M.: Temp., 102°; pulse, 156; resp., 21.

December 22d.—P.M.: Temp., 102°.

December 23d.—A.M.: Temp., 99.8°; pulse, 75; resp., 25. P.M.: Temp., 101°; pulse, 168; resp., 30. A bloody, fetid nasal discharge. No pseudo-membrane is visible. Vomits frequently, but takes a good amount of food. At noon she coughed up a large piece of pseudo-membrane.

December 24th.—A.M.: Temp., 100.2°; pulse, 168; resp., 36. The dyspnœa grew progressively worse, so that at 2 P.M. it was excessive; extreme restlessness, cyanosis, and deep falling in of the lower end of the sternum. The tube was inserted and gave immediate relief. There was coughed up through the tube a large cylinder of pseudo-membrane, with three branches. P.M.: Temp., 104.2°; pulse, 180; resp., 48.

December 25th.—A.M.: Temp., 102°; pulse, 156; resp., 42. P.M.: Temp., 103.6°; pulse, 192; resp., 48. Slept quietly last night. Pseudo-membrane in the pharynx. Much prostration. Urine contains albumen, fifty per cent. by bulk, and a few granular casts.

December 26th.—At 1.30 A.M. the tube was removed and found free from obstruction. The dyspnœa returned so rapidly that the tube was immediately reinserted, but without relief. It was removed and a cast of the trachea expelled, but the dyspnœa was not relieved until the tube was put back. She died quietly at 4 A.M., thirty-eight hours after its first insertion.

Autopsy.—Larynx, pharynx, and trachea, to finest bronchi, contain pseudo-membrane. Lungs: Bronchial glands large and cheesy; tubercular peri-bronchitis and some diffuse tubercular tissue of right lung; also some recent pneumonia of both lungs; interstitial emphysema of left anterior superior lobe. Kidneys large and boggy; cortex thick, and striations indistinct. Other organs appeared normal.

CASE VIII.—Adelaide I——, aged three years and seven months; diphtheria of larynx, pharynx, and posterior nares; albuminuria; recovery.

December 28th.—Post-nasal and pharyngeal diphtheria began December 25th. Last night the characteristic croupy cough and respiration began. A.M.: Temp., 100.6°; pulse, 150; resp., 30. The dyspnœa grew progressively more severe, and at 6.40 P.M. it was excessive. I inserted the tube and it gave immediate relief. P.M.: Temp., 100.5°; pulse, 150; resp., 28.

December 29th.—A.M.: Temp., 103.8°; pulse, 174; resp., 60. Slept quietly all night. Takes a fair amount of food. P.M.: Temp., 102.3°; pulse, 162; resp., 42.

December 30th.—A.M.: Temp., 101°; pulse, 162; resp., 36. No membrane is visible in the pharynx. At 6.30 P.M. a piece of pseudo-membrane was expelled through the tube. P.M.: Temp., 102.5°; pulse, 150; resp., 36.

December 31st.—A.M.: Temp., 104.5°; pulse, 180; resp., 42. At 7.30 A.M. the tube was expelled, and its calibre found free of obstruction. The dyspnœa returned quickly and soon became excessive—extreme restlessness, cyanosis, and deep sinking in of the lower end of the sternum. At 1 P.M. she was comatose. I quickly inserted the tube, which gave immediate relief to the dyspnœa, but caused no coughing. She remained unconscious until 4 P.M., when she began to rally. In all our cases we have uniformly waited until the dyspnœa was excessive before inserting the tube. The operation is done so quickly, requiring only a few seconds, that we have been able to defer the operation longer than we would have dared to do if we intended to resort to tracheotomy Thus we have had four recoveries from diphtheritic croup without resorting to any interference; and in all of these cases the dyspnœa was well pronounced, and would have urgently called for tracheotomy. P.M.: Temp., 104.6°; pulse, 164; resp., 56. No dyspnœa, and the patient is bright and comfortable. Urine contains twenty per cent. albumen by bulk, and hyaline and fine granular casts.

January 1st, 1886.—Slept quietly last night. The tube was removed at 9.25 A.M.—three days and fifteen hours after its first insertion. A.M.: Temp., 102.6°; pulse, 138; resp., 32. P.M.: Temp., 99.8°; pulse, 132; resp., 34.

January 2d.—A.M.: Temp., 100°; pulse, 144; resp., 30. P.M.: Temp., 101.2°; pulse, 144; resp., 27. A croupy cough, but no dyspnœa.

January 3d.—A.M.: Temp., 101°; pulse, 126; resp., 32. P.M.: Temp., 101°; pulse, 135; resp., 46. No dyspnœa. Voice hoarse and inspiration noisy.

January 4th.—A.M.: Temp., 99.8°; pulse, 132; resp., 36. P.M.: Temp., 99.6°; pulse, 132; resp., 30.

January 5th.—A.M.: Temp., 99.6°; pulse, 144; resp., 36. P.M.: Temp., 100°; pulse, 126; resp., 24.

January 6th.—A.M.: Temp., 98.9°; pulse, 138; resp., 28. P.M.: Temp., 99.8.° No croupy symptoms. Respiration noisy when asleep.

January 7th.—Temp., 99.5°; pulse, 132; resp., 30. Convalescent.

January 11th.—Slight paralysis of the muscles of both legs.

January 14th.—She was out of bed and dressed.

January 18th.—She regained her voice—seventeen days after the removal of the tube.

CASE IX.—Eliza W——, aged eleven months; diphtheria of larynx and pharynx; albuminuria.

December 22d.—A.M.: Temp., 102.8°; pulse, 168; resp., 60. The pillars of the fauces, the uvula, tonsils, and posterior wall of the pharynx covered with pseudo-membrane. The characteristic croupy symptoms are well marked. Miserable condition. The dyspnœa grew severe, and although it was a hopeless case from the beginning, the tube was inserted to relieve the suffering. At 11.30 A.M. I inserted the tube. The child immediately fell into a quiet sleep, and the respiration dropped from 60 to 48 per minute. P.M.: Temp., 104.8°; resp., 96. At 9 P.M. (nine and one-half hours after its insertion) the tube was removed and its calibre was free. The dyspnœa returned so rapidly that the same tube was put back at 9.30 P.M. Temp., 105.6°; resp., 66. Urine contains albumen fifty per cent. by bulk.

The dyspnœa returned in a few hours, and at 2 A.M., December 23d, she died with severe dyspnœa (fourteen and one-half hours after the insertion of the tube).

Autopsy.—A thin layer of pseudo-membrane in the trachea, ending at the bifurcation. Lungs: Intense bronchitis and œdema; no consolidation. Marked œdema of the anterior mediastinum. Kidneys: Markings slightly indistinct. Larynx: Swelling of the epiglottis, and ary-epiglottic folds overlapping the aperture of the tube. This condition never having occurred before, it was not suspected. The introduction of a larger-headed tube would have removed the difficulty. The secondary dyspnœa in this case was believed to be due to the extension of the membrane into the bronchial tubes. This dyspnœa always occurs when the bronchi are plugged by pseudo-membrane to any extent.

CASE X.—Julia Mc——, aged three years and three months; diphtheria of larynx and pharynx; albuminuria; double pneumonia.

December 24th.—Last night about 8.30 P.M. the characteristic croupy symptoms appeared. A.M.: Temp., 100.6°; pulse, 150; resp., 20. P.M.: Temp., 101.8°; pulse, 150; resp., 24. No pseudo-membrane visible in the pharynx. The laryngeal obstruction grew progressively worse. At 10.30 P.M. a piece of pseudo-membrane was coughed out, but it gave no relief. At 10.40 P.M. the dyspnœa was extreme, and the tube was inserted. The child fell into a quiet sleep and rested well all night.

December 25th.—A.M.: Temp., 103°; pulse, 168; resp., 28. P.M.: Temp., 103.8°; pulse, 180; resp., 36. No dyspnœa. Coughed a small piece of membrane from the trachea through the tube.

December 26th.—At 1.30 A.M. the tube was removed, and its calibre found free. Temp., 104.6°; pulse, 178; resp., 42. The obstruction returned rapidly, and at 6.35 P.M. (seventeen hours after removal of the tube) it was so severe that the tube was reinserted. Immediate relief to the dyspnœa. P.M.: Temp., 103.2; pulse, 168; resp., 44.

December 27th.—A.M.: Temp., 104.5°; pulse, 168; resp., 48. P.M.: Temp., 104.5°; pulse, 168; resp., 46. Cheeks flushed and nostrils dilate. Pseudo-membrane visible in the pharynx for the first time. Urine: Sp. gr., 1.028; acid; no casts; albumen, thirty-three and one-third per cent. by bulk. At 9 45 the tube was removed, but the dyspnœa returned so rapidly that it was reinserted in half an hour. She gradually failed, and at 10.30 P.M. she died comatose—three days after the first insertion of the tube.

Autopsy.—Pseudo-membrane in the pharynx and larynx. There is a thick, tenacious cast of pseudo-membrane from the tip of the epiglottis to the most minute bronchi. Lungs: Pneumonia of posterior portion of both lungs. Pleura shows points of hemorrhage. Glands moderately enlarged and dusky. Kidneys show some cloudy swelling. Heart, liver, spleen, stomach, and intestines normal.

CASE XI.—Rose M. T——, aged four years and eight months; diphtheria of larynx and pharynx; albuminuria; recovery. Just recovering from whooping-cough. December 28th she had a pharyngeal diphtheria, from which she was convalescent January 3d.

January 5th.—Last night she was hoarse, and this morning the characteristic croupy symptoms appeared. The pharynx is swollen and red, and on the left tonsil there has reappeared a patch of pseudo-membrane. A.M.: Temp., 100.5°; pulse, 158; resp., 30. P.M.: Temp., 99.5°; pulse, 132; resp., 30. Urine contains albumen, fifty per cent. by bulk.

January 6th.—A.M.: Temp., 99.5°; pulse, 120; resp., 28. P.M.: Temp., 100.6°; pulse, 156; resp., 26. Pharynx covered by dark gray, sloughy pseudo-membrane. A small piece of membrane expelled while coughing. Well-marked laryngeal obstruction, which has increased slowly and progressively. At 11.20 P.M. it was severe and the tube was inserted. She coughed about half an hour and then fell asleep. After the insertion of the tube the patient usually coughs about fifteen minutes and then falls into a quiet sleep—the dyspnœa is completely relieved. The coughing is of much benefit by aiding the expulsion of mucus, and the tube is often coated with an ointment of nitrate of silver for that purpose.

January 7th.—P.M.: Temp., 101°; pulse, 138; resp., 38. Slept quietly all night; no dyspnœa. She does not take food as well as usual. When the tube is in the larynx the patients usually take semi-solid food, as soft-boiled eggs, mush, ice-cream, etc., from the beginning; but it is twenty-four hours, as a rule, before they learn to take liquid food easily.

January 8th.—A.M.: Temp., 100.6°; pulse, 108; resp., 36. P.M.: Temp., 101.5°; pulse, 138; resp., 34.

January 9th.—A.M.: Temp., 101.2°; pulse, 144; resp., 32. Tube removed at noon, two and a half days after its insertion. P.M.: Temp., 101.4°; pulse, 150; resp., 36; slight croupy cough; no dyspnœa.

January 10th.—A.M.: Temp., 101°; pulse, 162; poor condition; no dyspnœa; urine contains fifty per cent. albumen by bulk; feet, hands, and face are much swollen. On great effort, she can phonate (one day after the removal of the tube).

January 11th.—A.M.: Temp., 99.8°. P.M.: Temp., 99.2°.

January 12th.—A.M.: Temp., 100°; pulse, 126; resp., 30. P.M.: Temp., 99.8°; urine contains no albumen; œdema of hands and feet gone; good, clear voice. Well.

CASE XII.—Eva O——, aged one year and two days; diphtheria of larynx, varicella; miserable condition.

January 15th.—The baby is in miserable condition. It was born prematurely and has never thrived. There has been a well-marked croupy cough and respiration since yesterday afternoon. The dyspnœa gradually increased until noon, when it was excessive; rapid respirations, restless, dark color of skin, and deep falling in of the lower end of the sternum. The tube was inserted and relieved the dyspnœa immediately; but the child was so exhausted that the presence of the tube caused only a few feeble coughs; fetid otorrhœa. The case was hopeless from the beginning, and the tube was inserted only to relieve the suffering. No pseudo-membrane visible in the pharynx; physical examination shows a double pneumonia. P.M.: Temp., 104.5°; resp., 64. The baby gradually failed, and at 6 A.M., January 16th, quietly died, eighteen hours after the insertion of the tube.

Autopsy.—Epiglottis normal. No pseudo-membrane in the larynx, except over the ventricles. Trachea lined by a thin layer of pseudo-membrane; membrane extends to the third division of the bronchi. Lungs: Bronchopneumonia of lower portion of both lungs, more marked on left side. The lower end of the tube came within half an inch of the bifurcation of the trachea.

CASE XIII.—Minnie V——, aged three years and nine months; diphtheria of larynx and pharynx; pertussis; recovery. Patient is in poor condition and has pertussis. January 3d, she had diphtheria of pharynx, from which she was apparently well January 13th.

January 14th.—P.M.: Temp., 100°; urine normal; well-marked croupy symptoms appeared last night. The dyspnœa grew progressively worse, so that at 9 P.M. the tube was inserted. At 9.40 P.M. she was asleep and all the dyspnœa gone. Pulse, 134; resp., 26. Good respiratory murmur over both lungs.

January 15th.—A.M.: Temp., 100.5°; pulse, 126; resp., 31. P.M.: Temp., 101.8°; pulse, 120; resp., 48. There was a small patch of pseudo-membrane in the pharynx yesterday, but it has disappeared to-day; no dyspnœa.

January 16th.—A.M.: Temp., 99°; pulse, 156; resp., 42; sleeps well, takes food well and is comfortable. At noon the tube was removed—thirty-nine hours after its insertion. P.M.: Temp., 101.2°; pulse, 132; resp., 22. The croupy signs have returned, but there is no dyspnœa.

January 17th.—A.M.: Temp., 99.5°. P.M.: Temp., 99.8°; pulse, 120; resp., 20.

January 24th.—Since last entry she has improved rapidly. No return of the dyspnœa, and the temperature has not been above 101° Fahr.; good voice. Well.

CASE XIV.—Emily E——, aged three years and five months; diphtheria of larynx and pharynx.

January 16th.—This morning the characteristic croupy symptoms appeared. There is a large patch of pseudo-membrane in the pharynx. A.M.: Temp., 102.2°; pulse, 138; resp., 40. P.M.: Temp., 102.5°; pulse, 156; resp., 28. The laryngeal obstruction is well marked. Severe epistaxis.

January 17th.—The dyspnœa grew progressively worse, and at 5 A.M. it was excessive. I inserted a tube and it gave immediate relief. She vomited freely and expelled a piece of pseudo-membrane while coughing. Pulse, 180; resp., 36. At 9 A.M.: Temp., 104.5°; pulse, 180; resp., 73. Although the respiration is rapid there is no dyspnœa. Physical examination of the chest is negative. P.M.: Temp., 105°; pulse, 192; resp., 72. At 7.30 P.M. the tube was removed to see if its calibre was free. The tube was clear, and at 7.45 P.M. it was reinserted, coated with an ointment of nitrate of silver to excite coughing. Pulse over 200. She gradually failed and died quietly at 2.30 A.M., January 18th—twenty-one and a half hours after the insertion of the tube.

Autopsy.—Pharynx, larynx, trachea, and bronchi to nearly the base of the lung, contain macerated pseudo-membrane. Tonsils excavated. Lungs: Beginning pneumonia in both; marked œdema; pus easily ex-

1885) the raise in the pitch of percussion resonance in the subclavicular region is due to the combination of the vesicular with a tympanitic quality toward the sternum, the latter being derived from the primary and secondary bronchi. Whether it be this or the presence of bronchial tubes occupying space that would otherwise be taken up by vesicular tissue, the fact that the right primary bronchus is larger and higher up than the left, would cause the pitch to be slightly higher in the right than the left subclavicular region.

Besides this, the right lobe of the liver as a solid base for the right lung, may possibly have some influence toward raising the pitch of the right subclavicular (infraclavicular, supramammary) region, as opposed to the large end of the stomach in relation to the left lung. Da Costa and Loomis simply mention the fact, while Guttmann ("Handbook of Physical Diagnosis," p. 68, William Wood & Co., New York, 1880) states that "on the right the pitch is usually deeper (lower) than on the left, though occasionally the reverse condition is met with." Such variations, according to the same author, possess no diagnostic value, as they depend only on the physiological differences in the tension of the chest-wall. According to my own observations the pitch of the normal percussion resonance is slightly higher in the right than in the left subclavicular region, as a rule. When the reverse occurs it is the exception.

All the authors quoted thus far, except Guttmann, state that the normal respiratory murmur in the right subclavicular region is more bronchial in character than on the left side. In the former, according to Loomis ("Physical Diagnosis," p. 35, William Wood, New York, 1883), the pitch of both inspiration and expiration is higher, less vesicular, and the expiration more pronounced and prolonged than in the latter. Guttmann states, erroneously I think, that it is simply more intense sometimes on one side, sometimes on the other. Flint (*op. cit.*, p. 87) calls this breathing in the right subclavicular region "the normal broncho-vesicular respiration," and says that "these several modifications of the respiratory murmur in the infraclavicular region are marked in proportion as the sounds are studied near the sternum, that is, over the site of the primary bronchi." In other words, the right primary bronchus, being larger than the left and higher up, gives the broncho-vesicular character to the normal respiratory murmur in the right subclavicular region which is not to be found in the left.

The reason why normal vocal fremitus is felt with greater intensity on the right side than on the left is, I believe, correctly given by Guttmann (*op. cit.*, p. 49) and others, and that is because the right bronchus is larger than the left. Moreover, according to Gray ("Anatomy," p. 850, Henry C. Lea's Son & Co., Philadelphia, 1883), the septum between the two primitive bronchi is situated to the left of the median line, so that foreign bodies entering the trachea naturally drop into the right bronchus. It is reasonable, therefore, to suppose that a greater amount of voice-sound would be conducted to the right than to the left side of the chest. Moreover, the left bronchus passes under the arch of the aorta, which may tend to interrupt the vibrations in that tube. The same reasons may be given why the normal vocal resonance is more marked on the right side than the left, as was first noticed by Stokes, of Edinburgh, Scotland.

In reviewing the points of disparity between the physical signs, as obtained in the right and left subclavicular regions of the healthy chest, we note the following: 1. Inspection is chiefly negative. 2. Palpation gives more fremitus on the right side. 3. The pitch of the percussion note is, as a rule, slightly higher on the right side. 4. Upon auscultation we find normal broncho-vesicular respiratory murmur and more intense vocal resonance on the right side. In other words, we have in the right subclavicular region of a healthy chest some physical signs which resemble very closely those of incomplete consolidation of lung-tissue, as seen in incipient phthisis. All that is wanting to make out this latter disease are localized subcrepitant râles or the mucous click. "Without a practical knowledge of these points of disparity," says Flint (*op. cit.*, p. 88), "error in diagnosis can hardly be avoided."

Walshe (*op. cit.*, p. 26) states that "as a general rule sounds of high pitch give *relatively* most vocal resonance, sounds of low pitch most fremitus." In other words, a high-pitched voice may give a fair amount of vocal resonance without any fremitus. This does not mean that a high-pitched or loud, shrill voice gives better vocal resonance than a loud, low-pitched voice, for farther on he says (*op. cit.*, p. 126) that, "*cæteris paribus*, the natural (vocal) resonance is marked in proportion to the graveness of the voice." Flint (*op. cit.*, p. 91) states that the "intensity (of normal vocal resonance) depends greatly on the loudness and lowness in pitch of the voice of the person examined. The resonance is notably weaker in women than in men." This view accords with those of Da Costa, Loomis, Guttmann, and others, so that it may be accepted as a fact that, other things being equal, a loud, low-pitched, harsh voice gives more intense vocal resonance, as a rule, than a high-pitched, or loud, shrill voice.

According to Walshe (*op. cit.*, p. 26) "vocal fremitus and audible vocal resonance bear no uniform relationship to each other, either in health or disease." And yet the conditions enumerated by him as most favorable for the production of both are about the same. They are: 1. A loud, harsh, low-pitched voice. 2. They are both more marked, therefore, in adults than in children, and in males than in females. 3. Both are more marked in the long-bodied and large-chested than in short-chested persons. 4. Chest-walls unencumbered with superfluous fat or extra development of muscle. 5. Both are more intense on the right side than the left.

It is true that vocal resonance may be well marked in a spot where vocal fremitus is feeble or wholly deficient, but it is the exception and not the rule. Indeed, Guttmann (*op. cit.*, p. 128) says that "the intensity of this sound (vocal resonance), at any part, corresponds exactly to that of the vocal thrill (fremitus); the conditions, therefore, on which depend the greater or less audibleness of the voice at any point of the surface of the thorax are precisely those formerly enumerated (*op. cit.*, p. 49) as similarly affecting the intensity of the pectoral (vocal) fremitus."

Both normal vocal fremitus and resonance are most marked in the subclavicular, infrascapular, and interscapular regions of the right side. Over the liver and heart, of course, the normal vocal resonance and fremitus are diminished or even absent, but, according to Walshe, the kidneys, unless enlarged, affect neither.

A curious fact about normal vocal fremitus is that its intensity is slightly increased by the recumbent posture, regardless of the substance reclined on. The voice-sound appears simply to be conducted to the chest-walls with slightly more force in the horizontal position, but the fremitus may be more marked when the person examined reclines on a spring couch, for instance, than a non-vibrating substance.

Of course the vocal resonance and fremitus may be increased or diminished both in health and disease. The conditions most favorable for their production in health have already been given, and the opposite of these will cause the vocal resonance to be more or less diminished, and the fremitus may be entirely absent, as in the case of a woman with a short, fat chest and a high-pitched, soft voice.

In disease, thickened pleura, and also emphysema, will, as a rule, diminish both vocal reasonance and fremitus. The former muffles them according to the degree of thickening, and in the latter case the lungs do not conduct the voice-sounds as well as in health. Stoppage of the bronchial tubes with mucus or the like will also cause them both to be diminished over the part to which

the tubes are distributed. Air or fluid in the pleural sac may cause both to be diminished or absent on the affected side. Occasionally a small spot is found over an extensive serous effusion where fremitus, bronchophony, and bronchial breathing may be obtained. This is probably due to a string of pleuritic adhesion attaching the compressed lung to the chest-wall. The voice and breath-sounds are then telephoned, as Dr. Leaming aptly terms it, along the string of adhesion to the chest-wall. While strings or small spots of pleuritic adhesions may not noticeably affect vocal resonance or fremitus, or may even serve to conduct the voice and breath-sounds with increased force, extensive plastic adhesions and thickened pleura, as a rule, diminish vocal resonance and fremitus according to the degree of thickening. There are, of course, many other causes affecting the vocal resonance and fremitus which space does not allow.

The differentiation of adventitious sounds is usually not difficult, except occasionally, as, for instance, in the case of fine, moist, bronchial and intrapleural râles. According to Flint (*op. cit.*, p. 136) the diagnosis is not difficult; but according to Da Costa ("Medical Diagnosis," p. 247, fifth edit., 1881), "where the secretions are viscid it would require a sense of hearing more delicate than belongs to the majority of mankind to judge, by the application of this test, whether the sound we perceive is formed in the lung or on its covering." Both are heard, usually, more plainly on inspiration than expiration. If they change with coughing, are not uniform, are attended with more or less expectoration and occasional sibilant râles, are bilateral and diffused, or else limited to one apex, they are probably bronchial. If, on the other hand, the râles are unaffected by coughing and are uniform; if the cough be reflex and there is little or no expectoration; if the râles are superficial, dry, and explosive, like the crackling of parchment under the ear, and are found only on one side, circumscribed, and situated about the periphery of the lung, they are probably intrapleural. Owing frequently to peribronchial thickening and commencing induration of lung-tissue, the pitch of the percussion note over both of these râles may be raised in pitch. When it is not, however, it is a point in favor of their being bronchial.

31 West Thirty-third Street, February 17, 1886.

Liberal Studies and the Social Position of the Doctor.—The physician sustains a twofold loss by reason of lack of liberal study. First, a loss in social position. Not the individual, but the average doctor, is here referred to. The social position of the average doctor is not equal to that of the average minister or lawyer, and the reason is largely due to deficiency in education. The remedy for this is in the hands of the medical student. The second loss is in professional practice. This is a consideration of weight to those who are indifferent to the matter of social position. How does liberal study help the physician in his practice? The medical profession has a natural and necessary alliance with all studies of nature and man. This is the reason why the *armamentarium* of the doctor should be liberally furnished. The speaker mentioned a list of some of the studies, not strictly professional, with which a medical student ought to acquaint himself. 1. The languages, especially English and Latin. 2. Natural history, especially botany and zoölogy; also geology and mineralogy. 3. Mathematics. 4. Philosophy. 5. General literature. 6. Rhetoric and Logic.—*Address of Dr. Willard.*

M. Reclus showed, at a recent meeting of the Paris Surgical Society, a female patient who presented a curious lesion. One of her legs was constricted by a congenital fibrous band. Last year M. Reclus removed two-thirds of the band, and subsequently the remaining third. The success resulting has been perfect. [This case evidently belongs to the same class as those in which amputation is produced *in utero* by constricting bands.]—*London Med. Record.*

Progress of Medical Science.

Ptomaines and Leucomaines.—At a meeting of the Paris Academy of Medicine, held on January 12th (*Archives Générales de Médecine*, No. 2, 1886), M. Armand Gautier presented a very important communication upon the alkaloids derived from the bacterial or physiological destruction of the animal tissues. The putrefactive alkaloids, or ptomaines, were discovered by Selmi and the writer, acting independently of each other, in 1870. M. Gautier had remarked that the albuminoid substances became, during the process of putrefaction, more strongly alkaline than was to be accounted for solely by the production of ammonia, and he was thus led to prosecute the researches which led to the discovery of the ptomaines. Selmi had discovered these alkaloids while analyzing the intestinal contents of a man supposed to have died from poisoning. The author reviewed the processes of extraction of these alkaloids and their physiological action, and stated that the marked differences which existed between ptomaines and the poisonous vegetable alkaloids, in their properties and chemical composition, were sufficient to prevent any confusion of the two on analysis. He then discussed the leucomaines, or the physiological alkaloids formed in the tissues during life. The animal organism resists this constant auto-infection by means of two distinct processes: elimination of the poison, and its destruction by oxygen. Most of these alkaloids are very oxidizable, and are rapidly burned up. But when anything occurs to prevent the free access of air to the blood, or to diminish the quantity of hæmoglobin, as in chlorosis, or when hæmatosis is interfered with, the leucomaines accumulate within the organism, and symptoms of poisoning appear.

A Peculiar Deformity of the Foot.—At a recent meeting of the Society of Physicians of Vienna, Herr Billroth presented a patient upon whom an operation for caries of the fifth metatarsal bone had been performed. The diseased portion of the bone was removed by the sharp spoon, and the wound healed kindly, leaving no deformity of the foot. Not long after this the patient, in alighting from a wagon, sprained his ankle, and was in consequence confined to the bed for three weeks. There was, however, no fracture of the bones. But soon the foot was seen to become misshapen, and when presented to the Society the appearance of the limb was like that resulting from a badly set fracture of the tibia. The external malleolus and lower end of the tibia were greatly thickened, and on the dorsum of the foot was an abnormal osseous growth coming down obliquely from the extremity of the tibia. The process was that of arthritis deformans as it is more frequently seen after fractures and dislocations. The case is worthy of note because of its spontaneous origin, and from the fact that the arthritis deformans in this instance, contrary to the generally observed rule, occurred in a tuberculous individual.—*Deutsche Medicinal-Zeitung*, February 4, 1886.

The Treatment of Chorea.—Dr. Joffroy recommends the systematic administration of chloral in combination with the use of the wet pack. To children over ten years of age he gives one drachm of chloral per diem, divided into three doses, after meals; 15 grains are given after breakfast, 15 after dinner, and 30 after supper. In children aged six or seven years, from 30 to 40 grains a day are usually sufficient, but each dose must be large enough to produce sleep in about fifteen minutes after its administration. He has never seen any unpleasant effects caused by the drug other than a roseolous eruption. In very severe cases the writer has the children wrapped in wet cloths at a temperature of 50° to 53° F., for two or three minutes, morning and evening. They are rubbed while in the pack, and are then covered up warmly and kept lying down for half an hour.—*Deutsche Medicinal-Zeitung*, January 21, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 10, 1886.

THE NATIONAL BOARD OF HEALTH.

THE National Board of Health is largely the creation of the medical profession of the United States, acting through the American Public Health Association. Everything relating to this Board—its work, its difficulties, its progress, and prospects—must be of special interest to medical men. Its membership is largely medical, and among its officers and members we recognize physicians of the highest standing in their sections of the country. Dr. James D. Cabell, the eminent professor of surgery in the University of Virginia, is its President; Dr. Stephen Smith, of New York, long connected with our own board of health, is Vice-President. Other members are: Dr. Robert W. Mitchell, of Memphis, Tenn., who organized and directed all of the work of that city during the great yellow fever epidemics; Dr. Stanford E. Chaillé, of New Orleans, long distinguished as a teacher of hygiene in the University of Louisiana; Dr. Charles Smart, U.S.A., eminent as a chemist and scientist; Dr. James M. Browne, U.S.N., the director of the bureau of hygiene of the Navy. These names give character and reputation to any organization to which they belong, and afford to the profession the highest possible guarantee that the duties of the Board were performed efficiently and honestly. And we may add that, if a Board so constituted does not command the confidence of the profession, the country, and Congress, we despair of ever seeing a central health authority established permanently at the capital. But the Board stands to-day the legally constituted health department of the general Government, fully organized and ready for active service, and yet it is idle at a season when its activity in the field of prevention should be greatest, and for reasons fully set forth in a recent statement by the President of the Board, Professor Cabell. We desire to call the attention of the profession to the facts so clearly and fully set forth in this communication. The appeal is made to every medical man to take such action as will, in his opinion, most certainly rightly influence his representation in Congress. Professor Cabell says the special cause which led to the establishment of the Board "was the great yellow fever epidemic of 1878. A great variety of measures were brought before Congress, designed to organize a health department at the capital, and, after the largest discussion and the most mature deliberation, the law creating the present Board was passed with great unanimity. The law was approved March 3, 1879. It provided for eleven members, seven of whom were appointed by the President and the Senate from different sections of the country, and four were detailed, one each from the Army, Navy, the Marine Hospital Service, and the Department of Justice. This law imposed upon the Board the duty of obtaining information upon all matters affecting the public health, and of advising the several departments of the Government, the executives of the several States, and the Commissioners of the District of Columbia on all questions submitted by them, or whenever in the opinion of the Board such advice may tend to the preservation and improvement of the public health. It also empowered the Board to make, or cause to be made, such special examinations and investigations, at any place or places within the United States, or at foreign ports, as it may deem best, to aid in the execution of the act and promotion of its objects. Immediately on its organization the Board proceeded to institute a series of investigations into matters relating to the public health, and continued them while appropriations were made by Congress for their prosecution. The subjects chosen were those having a national interest, and which could not be thoroughly investigated except by the aid of the Government. During the period that appropriations were made upward of thirty subjects were reported upon, more or less completely. The nature of these investigations will appear from the following among many subjects chosen: 1. A well-selected and fully equipped commission to study yellow fever in Cuba, and the methods of preventing its importation into the United States. 2. An investigation into the prevalence of adulteration of food and drugs. 3. An inquiry into the diseases of food-producing animals in their relation to man. 4. An investigation in regard to the influence of various soils upon sanitation. 5. An investigation upon the flow of sewers in relation to their sizes and gradient. 6. An investigation on the best methods of determining the quantity of organic matter in potable water, and the specific effects of variously contaminated waters upon persons who have used them. We need only say, in regard to these and other works carried forward by the Board, that the results attained are conceded by all to be of great and permanent value to the nation.

The danger of the reappearance of the yellow fever epidemic of 1878 led Congress to enlarge the duties of the Board, and on June 2, 1879, an act was approved which empowered the Board to co-operate with State and local boards in the prevention of the introduction of contagious and infectious diseases into the United States, and their spread from one State into another. By this most important act the combined powers of the municipal, State, and National Governments were for the first time united in one harmonious effort to prevent the introduction of pestilences into this country, and their spread if they secured a foothold. Under this act the National Board added to the efforts of State and local boards all the powers and resources of the general Government toward the suppression of the great epidemic of yellow fever of 1879, and with a degree of success which received universal commendation. It inaugurated and carried on a system of steamboat and railroad sanitary inspections; it made, and as far as it had power enforced, rules securing the best sanitary condition of ships entering the ports of the United States; it established a

series of island refuge stations for infected ships to be cleansed on the South Atlantic and Gulf coasts; it organized and aided in carrying out a system of inspection and vaccination of unprotected immigrants, which prevented an epidemic of small-pox. It also issued a weekly bulletin to health boards and sanitary officers of this country. Unfortunately for the country the law of June 2, 1879, was limited to four years, and expired in 1883. Congress did not re-enact the law, and thus the powers of the Board lapsed in so far as they related to co-operation with State and local boards in their efforts to prevent the introduction and spread of epidemic diseases. Nor have appropriations since been made by which the Board could continue the investigations referred to in the act by which it was established. As a consequence, though the Board has been maintained in all its integrity and efficiency, it has been compelled to remain comparatively idle in the presence of epidemics national in their prevalence and disastrous in their effects. It has been our constant and earnest endeavor to establish, on a firm and enduring basis, a branch of the public service devoted to the investigation and elucidation of the great problems relating to the promotion of the health of the people, and to the organization and enforcement of methods of co-operation of the municipal, State, and national authorities in the prevention of the introduction and spread of contagious or infectious diseases. We believe that the question of the need of a public health service in this country is no longer debatable, and that the Board as now provided for by law is the most efficient and acceptable form of organization for the discharge of these important duties. But while we have sought by every proper means and influence to sustain the Board, and thus faithfully discharge the trust committed to our care, we feel that it is for the citizens at large to determine whether, by suitable legislation and adequate appropriations, the National Board of Health shall be invested with such powers as will enable it to discharge properly the duties belonging to such a branch of the public service.

Deeply sensible of the responsibility resting upon us, and impressed with the absolute need of the service contemplated in the law establishing the Board and in the subsequent legislation enlarging its duties, we feel it our duty to lay these facts before them, and to bespeak their earnest co-operation in our effort to preserve and improve the public health. To accomplish this purpose it is absolutely necessary that the matter should be *at once* brought to the attention of the Senators from each State and the Representative in Congress from each district, in order that they may be informed as to the public sentiment in regard to these matters. Without such expression of opinion, legislation at this session of Congress is impossible.

THE USEFULNESS OF SPAYING.

THE attempt of the New York Academy of Medicine to check the practice of spaying is evidently an ill-considered one, and is entirely antagonistic to the progressive instincts of the day. The history of the world shows that the practice in question has always been one of the crowning ornaments of the best types of civilization, from the Chaldean to the Roman age. Now that, after many centuries of gloom, it is again brought into beneficent existence, its critics should beware of thoughtless and shallow opposition. The trouble probably lies in the fact that there still lingers an impression among crudely educated minds that the ovaries are organs of social necessity and economic importance. This, however, is a serious mistake. These organs are, it is true, useful for a short period in the existence of a portion of womankind for the perfunctory propagation of the race. Aside from this, however, they are not only of no service, but are a source of racial, domestic, and individual distresses of the greatest magnitude. Philosophers of the present day have ascertained several facts which place this view upon a solid and impregnable basis. No woman wants more than two children, many only one, and a large per cent., including all the unmarried, not any at all. But in fact the population is increasing at a seriously rapid rate, and the modern economist has had to revive and re-adopt the views of Malthus. In this exigency, when society's needs are antagonized by infant multiplicity, the laparotomist steps in, as a kind of modern saviour from the threatened polypædic catastrophe. The woman has her child, the ovary swells, the learned touch of the gynecologist detects a pyosalpinx, and in a twinkling out comes all the source of woman's labors and man's unsought paternities. The laparotomist is plainly society's best friend. Like all benefactors of the race, he must endure opposition and calumny for a time; but his noble work of radically removing the sources of over-population will go on, and we calculate that, at the present rate of increase, in fifty years some thirty-five per cent. of women will be permanently relieved of all the worry of maternal anticipation.

THE WORK OF THE NEW YORK MEDICAL MISSIONARY SOCIETY.

WE have received a courteous letter from Dr. George D. Dowkontt, of this city, Medical Superintendent of the New York Medical Missionary "Home and Institute," regarding the subject of "specially trained medical missionaries," to which we referred in our issue of March 6th. Dr. Dowkontt pleads the cause of the specially educated medical missionary. The great need of medical and surgical aid in heathen lands, and the great missionary value of such aid, are referred to, while the scarcity of men both willing and fitted to go is insisted upon. It was for these reasons that the Edinburgh Medical Missionary Society was founded in 1841, and the New York Medical Missionary Society in 1881. The peculiar need for the existence of the latter society, we are told, lies in the fact that medical missionaries must be particularly well educated medically, and American medical colleges are not good enough, and do not furnish sufficient training. Our correspondent adds:

"Allow me to say, in conclusion, that there is great force in the suggestion you made, that we could well spare two thousand out of the four thousand physicians annually graduated in America; and this is forcibly shown in the fact that while in 1880 there was one doctor to 585 people in the United States, there was only one *medical missionary* to nearly ten *millions* of the *heathen*.

"You observe that these could well be spared to go

forth and *disseminate the gospel.* Would to God they were *able* and *willing* so to do, then we need not exist; but they must first possess this gospel in their own hearts and lives to be able to disseminate it, and they must further be actuated by the spirit of self-denial which characterized the Great Physician for body and soul, the Lord Jesus Christ, before they will be *willing* to do so.

"Thank God for the noble men of our profession who have gone forth to heathen lands, as Scudder to India, Parker to China, Livingstone to Africa, and Post to Syria, but oh! for more such men who are willing rather to live to *give*, than to get.

"At the same time, I would not overlook the good work done by Christian physicians at home, work seldom recognized at its full worth, such as our late President, Dr. Alfred C. Post, and others."

THE HEALTHIEST CITIES IN THE WORLD.

JUDGED by their death-rate (in February), the healthiest cities in the word are St. Paul and Minneapolis (*Northwestern Lancet*). The death-rate per 1,000 on the basis of the February rate is 9.60 and 9.88, respectively. We dislike to dethrone the twin metropolis of the great Northwest from its hygienic supremacy, but it does seem very probable that the figures which the *Lancet* bases its statements upon are not strictly accurate. According to them, there were 97 deaths and 220 births in February, a ratio of deaths to births which is beyond all precedent. This ratio in Brooklyn, for example, is as 137 to 125, and in New York as 340 to 289.

The average birth-rate is about 38 per 1,000, while in St. Paul it is only 21.9 per 1,000, and at Minneapolis it is only 15.5 per 1,000. Procreative vigor in Minneapolis, therefore, by the same figures, reaches its lowest ebb. If the statistics are right, then the great salubrity is at the cost of alarming sexual decay.

LOCAL ANÆSTHESIA.

SINCE the discovery of the remarkable effects of cocaine the progress in the study of local anæsthesia has been as wonderful as it has been gratifying. Ophthalmology, to which its employment was at first restricted, soon proved itself too narrow a field, and the journals soon teemed with reports of its use on almost every portion of the body. Nor were the trials confined to the smaller operations. Resections, ligatures of arteries, and amputations followed in the train, with results now so well known. Cocaine, of course, has its limit of adaptability. Although it can never absolutely take the place of ether, its ultimate possibilities are not yet demonstrated. No one has studied the latter with better results than has our esteemed townsman, Dr. J. L. Corning, and we are pleased to notice that his methods of procedure are being indorsed by surgeons all over the country. The trouble with cocaine, when injected, has been the evanescent character of its effect, a matter of serious import in prolonged and severely painful operations. Corning has seemingly compassed these difficulties by confining the circulation of the part by ligature. In his recent work on this subject * are detailed many interesting suggestions bearing on the general question of local anæsthesia, not the least of which is that referring to the employment of his method in sciatica and other neuralgias. There is no doubt that cocaine deserves to be studied from these practical standpoints, and we shall await the results with interest. Dr. Corning is evidently on the right track, and it must be a source of gratification to him to know that the results of his patient labors are being recognized.

* Corning on Local Anæsthesia. New York: D. Appleton & Co.

ARSENIC IN WALL-PAPER.

THE annual excitement in the city of Boston relating to the presence of arsenic in wall-paper has on this occasion, resulted in thorough investigation by a committee of the Massachusetts Legislature, so that the medical profession and the public at large have at length the plain facts before them.

One of the questions investigated was the manner in which the poison was communicated, supposing arsenic to be present in the wall-paper in any quantity. Of course, there are two ways in which this could happen: first by *attrition* or friction, where the color containing the arsenic is rubbed off. This would most probably occur in a bedroom where the bed was placed next to a wall, as the movement of the bedclothes against the wall would produce such an effect. It is obvious, however, that only a very small percentage of the arsenic on the walls could be removed within a certain amount of time, and unless the walls were literally covered with arsenic it would be difficult for a person during the night to collect sufficient of the poison to produce toxic symptoms.

The case, however, assumes very different proportions if the arsenic present could be shown to be decomposed and mixed with the air of the room in the form of a gas. A very small proportion of arsenic breathed as arsenurated hydrogen would cause immediate sickness. It is therefore clear that this form of arsenical poisoning is to be most dreaded.

The Legislative committee tried to clear up this point, whether arsenic could, or could not, be converted into arsenurated hydrogen gas in a room by damp or any other cause.

The evidence of Professor C. F. Chandler, of New York, before the committee, was very convincing as showing that this danger did not exist. It appears that some time ago, as a mere scientific experiment at Columbia College, he tested this matter in the most severe manner. He prepared a large box to represent a room, and hung the interior with a wall-paper full of Paris green. The paper was hung in deep folds dropping from top to bottom of the box, new paste was added to represent the actual conditions and afford the necessary dampness to produce the gas. Air was forced through the box for some time and collected, and afterward analyzed. On all occasions not a trace of arsenurated hydrogen could be found. On the strength of these and other tests, Professor Chandler gave his opinion, that under no conditions could arsenical poisoning occur through breathing arsenurated hydrogen from wall-paper, leaving the only risk that could happen to be from friction alone.

As to the question of arsenic in wall-paper, it was admitted that there was a time when it was used without

limit as a coloring material, but three years ago it was practically abandoned; since this time arsenic has undoubtedly been present in small quantities, even when the color has been sold and guaranteed to be non-arsenical. This may have arisen from the presence of arsenic in the zinc, or other ingredients, of the color, as a simple impurity. But for all practical purposes it may be stated that the use of arsenical colors has been abandoned by reputable manufacturers.

The bill before the Massachusetts Legislature proposes to place a limit to the presence of arsenic in wall-paper at one-fourteenth of a grain to the square yard, which is about half a grain to the piece of eight yards. Since the opening of the investigation it has been found that arsenic is present in large quantities in the paper of fancy boxes, paper for wrapping candy, gentlemen's underwear, carpets, ladies' dresses, and a variety of other articles of general commerce. It is now proposed very justly to make this anti-arsenic bill apply to manufacturers generally.

As to the question of legislating on this subject, Professor Chandler said that one grain to the square yard would be a safe limit, but he was opposed to any restrictive measure, because he thought the danger had passed and did not at the present time exist. Such a bill would cause unnecessary alarm in the public mind, and create a prejudice; it would also cause trouble to the manufacturers, leading to endless litigation and disputes. If, however, any restrictive bill of this kind is passed by the Massachusetts Legislature, it should certainly apply to all kinds of manufactures, particularly to clothing, and articles coming in contact with food-products.

THE DUALITY OF THE TEMPERATURE SENSE.

As cold is but a negative expression, denoting the abstraction of caloric, the idea of distinct sets of nerves, and of separate centres for the perception of heat, and of the absence of heat, is somewhat perplexing. Yet we know that the sensation of pain, which seems to be but an exaggeration of that of touch, may be abolished while the latter is preserved, and conversely, a part may be acutely sensitive to painful impressions, although tactile sensibility has been abolished. And it is now believed that these sensations of touch and of pain are carried by separate nervous tracts to different points of the central system. We know that heat and cold, subjectively considered, are only relative terms, and that an object of a given temperature which feels cold or warm to one person may even convey the opposite impression to another, or to the same person at another time. In myelitis it sometimes happens that the application of ice causes a burning sensation, just as in certain hyperæsthetic conditions the slightest touch causes unbearable pain. These facts and others exemplifying the difference between physical and physiological heat and cold can be explained more easily by the assumption of a dual sense than by any hypothesis which has been hitherto suggested.

In the *Centralblatt für Nervenheilkunde*, No. 20, 1885, Dr. A. Herzen argues with some force upon the existence of separate perceptive centres for heat and cold. His conclusions, formed as a result of experimental and pathological observations, are that there are distinct peripheral organs for the perception of heat and of cold, and that, consequently, the centripetal nervous filaments are also separate; there are, therefore, specific nerves for these two sensations, which, though they have a common course and a common termination, are by no means identical. The sense of cold, he believes, is in some way connected with that of touch, while the impressionability to heat and pain are similarly allied. These sensations are not one and the same, however, and we cannot argue from a loss of the sensation of cold that tactile sensibility is also destroyed, nor conversely.

In the *Memorabilien*, vol. xxx., No. 8, Dr. Friedreich Betz reports a case which adds considerable weight to Herzen's theory. The patient, a man seventy-five years of age, was suddenly seized with a paresis of the left arm. The case seemed at first to present nothing of special interest, until the patient received a severe burn on the hand without feeling any pain therefrom. This led to further examination, when it was found that the sense of heat-perception was entirely lost. As light pricking sensation and an involuntary reflex movement of the arm were the only signs by which he was able to tell that any substance was hot. But the sense of cold-perception was even exaggerated, so much so that rain-drops falling on the hand caused a feeling of almost unbearable cold. In the course of time a slight improvement took place in both muscular power and in the ability to feel the heat of objects, but a perfect recovery was never obtained.

In studying this subject, it is interesting to recall the experiment of Horvath, who found that the application to the skin of alcohol at a temperature of −5° F. abolished the sense of pain-perception, while tactile sensibility was seemingly unimpaired. Were the sense of touch and of cold-perception so slowly allied, one would suppose that the exhaustion of the latter by overstimulation would depress the tactile sense rather than abolish that of pain.

THE MOVEMENT CURE IN CHINA.

It has been generally supposed that the system of kinesitherapeutics, known as the Swedish movement cure, or Lingism, was an invention of Mr. Ling, of the Royal Academy of Sweden, but this is a manifest error. We never had anything against Mr. Ling, but, on the contrary, have always revered his memory, and have gazed upon the machines used to impress motion upon the various parts of the human frame with a feeling akin to awe, such as must have filled the breast of the untutored savage of the plains when first he beheld a locomotive. But candor compels us to proclaim to the world that the Swede was preceded by a Chinaman who invented a similar therapeutic system some four thousand years ago. We have been forced to admit the prior claims of the Chinese to the invention of gunpowder and the art of printing, and now we must yield them the palm also in this other discovery so useful to man and to the cause of civilization.

Dr. D. J. Macgowan has recently published a little brochure, entitled "The Movement Cure in China," in which he gives a brief history of the system, and describes the methods in use at the present day. That the method is one of undeniable efficacy, is proven by the fact that Ch'ee Sung Asz, one of its earliest professors,

had, according to reliable Chinese authorities, already attained the somewhat venerable age of twelve centuries, when he was consulted by the Yellow Emperor concerning the art of prolonging life. Hoang-ti does not, however, seem to have profited by his instructions as much as he might, for he reigned only a hundred years, and then died like the patient of any ordinary physician. One of the greatest authorities in kinesipathy was Ta-mo, or Thomas, a Buddhist patriarch, who came from India in the fifth century of the Christian era. His disciples became celebrated for their athletic and militant proclivities, though the master himself, like some members of his profession in modern times, did not practise what he preached, for he passed the last nine years of his existence in the not very active occupation of gazing at a blank wall, and neglected entirely his life-prolonging exercises.

The latest addition to the literature of the Chinese movement cure is a work by P'an Wei, the Governor of Hupeh, entitled "Important Life-maintaining Methods," published in 1858. In this treatise most minute directions are given for the proper performance of the exercises, and the text is supplemented by numerous graphic and highly artistic illustrations. We can mention only a few of the exercises here, and those who desire to perfect themselves in the art are respectfully referred to Governor P'an's original work in Chinese. While going through the motions the patient is to think about nothing, but should have the mind in a state of absolute quiescence. The neck is to be held with the hands, and the head must then be turned thirty-six times; then press the temples with the index finger twenty-seven times, shut the teeth firmly thirty-six times, swing the arm in its socket twenty-four times, and get on all-fours thirteen times, raising and depressing the back. The patient must then walk one hundred steps, rubbing the abdomen with both hands, concentrating the mind on the "little stomach" in the pubic region, and finally hold the scrotum with one hand, and the belly with the other, changing hands eighty-one times. This very brief abstract will suffice to demonstrate the excellence of the method, and prove beyond question its superiority to the modern system of Ling. If our remarks shall have the effect of leading others to introduce the new-old cure of the Chinese into modern therapeutics, we shall feel that we have had our reward.

MEDICAL WONDERS OF THE WEST.

A RECENT number of a Western contemporary which has fallen into our hands convinces us that in the field of therapeutics the world follows the theory of the Rev. Jasper, and "do move." In fact, as we look over the pages of this periodical we feel that our Eastern therapeutics are sadly behind the times. A few illustrations of Western progress may be in order.

To cure tape-worm, the sovereign remedy is a full tablespoonful of gunpowder, followed in ten hours by a dose of castor-oil. The mode of action is not given. The powder may go off and the parasite be shattered—blasted out, as it were—or it may be simply stunned by the concussion and swept out by the relentless oleum ric. before it has recovered from the shock. The writer of the article further tells us that he or she (for the name suggests one of the fair sex) has "added shekels to my (his or her) bank account, and a little 'good report' to the professional side of the scale as a successful practitioner, and especially for good luck in the treatment of Bright's disease." Main reliance is placed upon an infusion of orange seeds, alternated with oil of turpentine. The former is believed to have a specific action over the vaso-motor centres and to equalize the "venal" circulation. As an "adjunctive" the tincture of lycop. vir., hydrarg. ar., and liatris spic., are given, with the directions that a teaspoonful be taken every six hours until cured. In accordance with our present ideas as to the prognosis in Bright's, it must be necessary to place a bottle of the liatris spic. in the coffin of the patient, so that the dosage can go on according to the above directions.

For scabies the following ointment is recommended: "Acid nit. (stronger) 2 ounces; mercury, 1 ounce; adeps, ½ pound." The writer frankly admits that he has known "one or two persons to be paralyzed by using too copiously." This affliction of the patient, instead of the parasite, is truly a disagreeable circumstance.

The localization of the centres for conscious activity is evidently still *sub judice*. An account is given of a man who was "felling a tree, and it lodged; when attempting to dislodge the tree it fell and struck him about the pubis, knocking him senseless." There is in this sad recital a suggestive hint for our neurologists.

A very interesting discussion ensues as to whether negroes are ever killed by lightning. It seems that out there lightning, as a therapeutic agent, has a sort of selective affinity, somewhat analagous to the effects of belladonna on the eye and aloes on the large intestine. A sort of collective investigation seems to have been undertaken on this topic. One gentleman reports a case in which the subtle fluid attacked first a tree and next a house—joyfully pranced down on one of the rafters, and ended up by performing the happy despatch of an unoffending colored woman, of three. Another observer has records of an occurrence where "a single stroke of lightning sent the souls of two old darkies from 'Dixie's' cotton fields to the land beyond." This writer adds the comment that "a negro's cuticle is pretty hard to penetrate, but when Jupiter Tonans sends his thunderbolt against it a surrender generally takes place." We presume that a temporary armistice is concluded between the combatants.

We might quote further, but we desist. In view of the foregoing facts we almost feel that our own discussion of medical topics is provincial. Still, we shall not prescribe gunpowder or believe in the immunity of our colored brethren from lightning without further evidence.

PROPITIATING THE GODDESS OF CHOLERA.—During the late Dusserah festival at Bombay, it has been discovered that three buffaloes were sacrificed in a most brutal manner with the view of propitiating the Goddess of Cholera. The buffaloes, after being decked with garlands and led around the bazaar, were literally hacked to pieces, while the police and civil authorities remained in convenient ignorance of what was being done.

A NEW MEDICAL SOCIETY FOR ST. LOUIS is announced to be in process of organization.

News of the Week.

A GOOD BILL.—THE RECORD has on several occasions drawn attention to the bill "For the Better Preservation of the Health of Children in Institutions," introduced in the Assembly by Judge Batcheller, of Saratoga. This bill was prepared by the committee appointed by the New York Academy of Medicine in June last, and if its passage in the Legislature is secured will do much toward lessening the scourge of ophthalmia, which exists so extensively in the orphan asylums of this city and State. Fortunately for the friends of the bill, Judge Batcheller, from a long residence in Egypt, knows much of the ravages the disease has there caused. The Assembly Committee of Public Health, under the efficient chairmanship of Dr. Herman Craft, has favorably and unanimously reported the bill, and it has been passed by the Senate.

DR. JOHN S. BILLINGS, of Washington, has been chosen to deliver the address in medicine before the next meeting of the British Medical Association, in place of Dr. Austin Flint, deceased. No better man could have been selected to represent American medicine on such an occasion. It is an honor well deserved, and we congratulate Dr. Billings accordingly.

MR. LAWSON TAIT ON METHODS OF DIAGNOSING.—Mr. Lawson Tait, of Birmingham, England, sends the following note: "It has been pointed out to me by more than one correspondent that the expression I used in referring to the method of examining a patient lying on her back has given offence to some of my professional brethren on your side of the Atlantic who habitually employ it. I desire to say that I deeply regret this, and that I desire to express my regret for having used a word certainly much stronger than I need have used when I said that the method was a brutal one. I should be glad if you would permit me formally to withdraw that word, and to say that it was used without sufficient thought to convey the full sense of its offensiveness to me. What I did mean was that I feel it is by no means as delicate a method of examination as that which I habitually employ myself, and more than this I ought not to have said. I certainly am perfectly satisfied, despite what my friend Dr. Mundé said, that our English method is sufficient for nearly every purpose, and that being simpler and more delicate in its application is that which ought to be usually employed."

DR. JAMES J. DELANY died of pleuro-pneumonia, April 2, 1886. He was a native of Waterbury, Ct. He graduated from the College of Physicians and Surgeons, New York, in 1874, and entered the service of Charity Hospital, from which he was called in 1875 to take charge of the small-pox and fever hospitals under the care of the Health Department. While there he carried on a most thorough series of investigations on the use of the cold-pack in fevers, but unfortunately the book containing the records was lost. After five years' service he went to Buenos Ayres, but was dissatisfied with the appearance of the country and returned to this city. He was visiting physician to the Hospital for Nervous Diseases on Blackwell's Island. Dr. Delany was much loved by his professional friends, and the esteem in which he was held by the community was manifested by a large congregation at the funeral services. He was unmarried.

ST. LOUIS MEDICAL SOCIETY.—At their last meeting the St. Louis Medical Society adopted the following resolution: *Resolved*, That all reputable medical journals be invited to make such report of the proceedings of this society as they may desire.

DR. HENRY B. MILLARD, of this city, has been chosen by the president of the International Congress of Hydrology and Climatology to be the American delegate to said Congress. The latter meets at Bayreuth, Bavaria, in October next.

THE MISSISSIPPI STATE MEDICAL ASSOCIATION will convene at Jackson, April 21st.

THE STATE MEDICAL SOCIETY OF ARKANSAS.—The eleventh annual session will be held in Helena, on Wednesday and Thursday, April 28th and 29th, commencing on Wednesday at 10 A.M.

THE DEATH OF DR. THOMAS SPENCER COBBOLD, the distinguished helminthologist, is announced.

THE MEDICAL SOCIETY OF NORTH CAROLINA meets at Newbern on May 19th.

WE FEAR THAT OUR usually alert contemporary, *The Medical and Surgical Reporter*, does not read his exchanges. It says: "The Association has, we maintain, the right to do just exactly that which it chooses; and when it has announced its decision, it then becomes the plain duty of all right-meaning medical men to uncomplainingly abide by this decision. The claim that the Association has not the right of arbitration has been, we say, clearly abandoned by those who at first made this claim, as is evidenced by their determination to refer the matter in dispute to the Association for arbitration." Turning now to *The American Practitioner and News*, one of the journals which first made this claim, we read: "The new committee pledged the Association to accept the work of the Committee on Organization. It gave the latter full power to create or destroy, to do or undo, according to what it believed would inure most to the interests of the Congress. It promised that its acts should neither be altered, nor revised, nor interfered with, in any manner whatever. It is true that such a pledge was an unusual one to give, and such a promise an unusual one to make, but both were incorporated in the bond executed by the legal representatives and accredited agents of the Association, and nothing remains for that body, when it meets in St. Louis, but to ratify the contract. This it is in honor clearly bound to do. It has absolutely no choice in the matter."

THE DECREASE OF GENERAL PARALYSIS AND INCREASE OF CLIMACTERIC INSANITY IN EDINBURGH.—Dr. Clouston finds from a study of admissions into the Edinburgh Asylum during the past twelve years that there has been a decrease in the percentage of general paralytics from 7.3 in 1873–77 to 4.5 in 1881–85. He thinks that this indicates a decrease in preventable insanity. He finds an increase of cases of what he terms mental break-down in persons of about the age of sixty who have worked hard. It is, he thinks, a kind of climacteric insanity in the male.

ONLY A COLD.—The *Lancet* minimizes the illness of the Princess, declaring she is only under the influence of "a common cold." "Only a cold," was the reply of a patient to a query from Abernethy. "Only a cold!" repeated the great medico; "what the devil would you have, the plague?"

PRESCRIBING FORNICATION.—An eminent Cincinnati evangelist recently said: "The doctors of this country have said to many a young man, 'You can't be virtuous and be healthy.' Is there a doctor here that ever said that to a young man? If there is I want to look him in the face and tell him, 'You are a liar of the deepest dye.' My daughter, your daughter, has the same constitution as your boy, and I dare you by all the power in the Bible to walk up to my daughter and tell her she cannot be virtuous and be healthy! What does the doctor say to you old married men? Does he tell you that you can't be virtuous and be healthy?" To this the *Lancet and Clinic* indignantly replies that "the doctors of this country do not give any such advice as the evangelist asserts." We trust and believe that the great majority do not, but we fear that a small minority do; and we venture to say that the importation of European morals, along with European science and pseudo-science, has had something to do with it. In a blind scientific study of the "case," the doctor may forget sometimes that he owes a duty to society as well as to his patient.

THE LADY DOCTORS.—The Scottish Colleges of Physicians and Surgeons (of Edinburgh and Glasgow) have just decided to throw open to women their conjoint examinations and "triple qualification" in medicine, surgery, and midwifery. Nine of the nineteen licensing bodies in Great Britain are now open to female medical students.

THE MEMPHIS HOSPITAL MEDICAL COLLEGE graduated a class of thirty-seven at its annual commencement, February 26th.

THE OMAHA MEDICAL COLLEGE celebrated its fifth annual commencement on March 25th, and graduated a class of five.

THE SUNNY SIDE.—Dr. R. C. Moore, of Omaha, Neb., in an address before the graduating class of the local medical college, said: "After an experience of over two-score years, I can tell you honestly and candidly that there is but little truth in all of these doleful prognostications of these dyspeptic doctors. The skilled and conscientious physician is the happiest, most self-satisfied, and best-fed man in the community. If he attends to his business, if he be honest in his dealings with his fellow-men, if he be endowed by nature with common sense, and has acquired by study the fundamental principles of his profession, he cannot only enjoy the social pleasures of cultivated society, but he can accumulate a sufficiency of this world's goods to render his declining years free from pecuniary embarrassment, without arduous labor at the time of life when the desires of man are for freedom from business perplexities and physical fatigue."

AMERICAN SURGICAL ASSOCIATION.—The annual meeting of the American Surgical Association will be held in Washington, April 28th, 29th, 30th, and May 1st.

MUTUAL PROTECTION AGAINST BLACKMAIL.—We learn from Dr. E. J. Doering that a physicians' protective association is to be organized in Chicago. It is stated incidentally that during the month of March four suits for alleged malpractice have been brought in Cook County against well-known physicians.

THE COST OF SICKNESS in the hospitals of France in 1880 was $10,779,235.

GONORRHŒA IN THE FAMILY.—M. P. Aubert contributes some facts to the *Lyon Médical* which show that gonorrhœa introduced into a family by the erring husband may affect not only the wife, but children. Mme. X—— sent to him her little daughter, aged four, suffering from "whites," and Dr. Aubert found that she had gonorrhœa, with numerous gonococci in the secretions. The mother had herself suffered from excessive leucorrhœal discharge for several days, and she stated that her husband had had a discharge for some weeks. The family attributed it all, says Dr. Aubert, to some bad wine which had been used. In a second instance, father, mother, and little girl all had the gonorrhœa. Here it was established that the mother, while suffering from the discharge, twice took her daughter into the bath with her. It was thought that the contagion came in this way.

NEW YORK NEUROLOGICAL SOCIETY.—At the annual meeting of this society, April 6th, Dr. C. L. Dana was elected president, Dr. George W. Jacoby secretary.

MISFORTUNE TO THE GRADUATES OF THE JEFFERSON MEDICAL COLLEGE.—After the college commencement, which was held on April 2d, the Faculty gave a banquet to the newly-made doctors at Natatorium Hall. A temporary floor had been placed over the basin fixed for swimming in the west end of the room. On the temporary floor stood a piano, around which a number of the doctors were standing. Suddenly the floor gave way, and about twenty-five of the party fell with the piano and the débris to the bottom of the basin, a distance of twenty feet. Three persons were seriously hurt, but there was no fatal injury.

THE CONTAGIOUS DISEASES ACTS of Great Britain, by which prostitution was regulated in garrison towns, have been repealed by a vote of 245 to 131. English medical opinion, as a rule, supported the acts, and *The Lancet* announces gloomily that henceforth "disease and immorality in their most revolting forms are to riot in the midst of our garrison towns." The sentiment of the English public, however, was against the acts.

THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE has established a hospital for operative and other cases at the college building, Broad and Lombard Streets, Philadelphia. A number of ward patients have already been treated in the new hospital.

A NATIONAL SANITARY CONVENTION is announced to be held in Philadelphia, under the auspices of the Pennsylvania State Board of Health, on May 12, 13, and 14, 1886.

AN INDEPENDENT HEALTH BOARD FOR MASSACHUSETTS.—The bill separating the Massachusetts State Board of Health from that of lunacy and charity has become a law.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 1, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE PRESIDENT announced as memorialist for S. Oakley Vander Poel, M.D., LL.D., Albert Vander Veer, M.D., of Albany.

Reports from Sections were made, containing brief abstracts of their proceedings.

DR. HENRY C. COE then read a paper entitled:

IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT AS IT HAS BEEN REPRESENTED?

in which the author said that this title did not imply skepticism so much as it did a mildly negative answer to the question. Not only was our knowledge of the normal ovary in an unsettled condition, but especially crude was, as far as text-books were concerned, our knowledge of the pathological conditions supposed to be included in such terms as ovaritis, periovaritis, etc. But interest in ovarian disease would not die out in this country, at least, if the work of the surgeon with its rapid growth was able to keep it alive. The aid of the microscope was only rarely invoked by gynecologists, and not infrequently ovaries were removed and passed into the hands of the pathologist with the request that the diagnosis be sustained, when the subsequent examination made it extremely difficult to justify the wisdom of the operation.

The question, then, naturally arose, What is a normal ovary? So much had been said about the common occurrences of chronic ovaritis, cystic degeneration, etc., that, if true, the existence of a normal ovary, except in animals, might well be doubted. Besides, the minute structure of the ovary was not constant, histologically. Under these circumstances it could be readily seen how difficult it was to determine where the physiological condition ended and the pathological began.

Ovaries had been removed because they were regarded as cystic, and yet it had not been decided what was meant by a cyst; that is, when the ovisac ceased to be a vesicle and became a cyst.

The ovary ordinarily encountered was not the typical one illustrated in the text-books on histology, to be sure, but it was not to be regarded, on that account, as an organ suitable to be plucked out.

Then the question arose, To what extent may an ovary deviate from the so-called typical without being diseased? In general, the conditions which had been said to justify the operation for the removal of ovaries were included under variations in size and shape, the presence of cysts, more or less numerous, upon their exterior, changes affecting the thickness of the cortex and the stroma, adhesions, etc. Dr. Coe then examined the several points, and said that the variations in size and shape might be such as to make them spherical, oblong, or discoid, instead of almond-shaped, and still they might be perfectly normal. Under the influence of simple congestion the organ might be temporarily enlarged. The moderate enlargement due to congestion had been noticed at the operating-table, but it did not necessarily imply disease. Considerable increase, a decided diminution in size, did not positively indicate an abnormality. The ovary was not a stationary organ; it varied in this respect according to age, and also never returned to its natural size after labor. It might be seamed and scarred and changed in color as age increased. Thickening of the cortex might be perfectly natural in an ovary, and frequently existed in an ovary which was in full functional activity. So long as the Graafian vesicles could get to the surface there was not much thickening, and localized cirrhosis in the depths of the stroma were not uncommon. Cystic degeneration was most frequently given as a condition that justified extirpation, and he had rarely heard the diagnosis of cystic degeneration called in question when three or four vesicles, not larger than small peas, had been found upon the exterior of the organ. If all the so-called cystic ovaries were to be regarded with suspicion, there were but few women who were positively out of danger. Ordinary cases of hydrops ovarii seldom acquired any importance clinically.

On the other hand, as had been demonstrated by Olshausen, there was a true cystic degeneration, but it is not common. From all that was known, pathologically, concerning cystic degeneration, it could be said truthfully that, given an ovary slightly above the usual size, with a half-dozen transparent vesicles, as large as peas, upon its surface, and functionally active, we were not justified in inferring that such an ovary was in extensive cystic degeneration, and that, consequently, it should be removed without regard to other and more positive indications. Nor was cirrhosis to be inferred because of the presence of a few spots of fibroid degeneration. If a number of sections showed perfect ovisacs, or Graafian follicles, the deduction could not be made safely that this was evidence of a diseased organ which should be removed. Neither did partial disease imply total loss of function. Schroeder had even gone so far as to remove only the diseased portion of ovaries, and with the expectation that what remained would perform the function of the organ. Although there was room for doubt with regard to the success of this method, it was evidence of the conservative tendency of its author, adn furnished food for thought. With reference to *tubal pathology*, there was no discrepancy of opinion as to removal of tubes distended with pus being justifiable and necessary. But Dr. Coe was not prepared to accept the statement of Mr. Tait that it was illogical to attempt to make a differential diagnosis between certain conditions, and, on the contrary, believed that it was illogical not to attempt to separate the different classes of cases. Against the sweeping statement made by Mr. Tait, that in chronic ovarian disease the tubes were invariably involved, Dr. Coe protested. He then asked what constitutes disease of the tubes? Nothing was plainer than a plain case of pyo-salpinx; but the multiplication of terms which had been seen, and which was increasing, had not been fortunate enough to secure the support of pathological observation. A healthy Fallopian tube was capable of increase in size. He had sought for evidence of catarrh of the tubal mucous membrane, but had not been successful, and the conditions which he had found in the so-called cases of catarrhal salpingitis, were such as he had been unable to distinguish from the normal; that is, moderate hyperæmia of the mucous membrane, which was covered with a thin layer of mucus. Cilia in active motion was proof against the presence of inflammation. Nor had he found that hypertrophy of the muscular coat of the tube, and changes affecting the lumen, except pyo- and hydro-salpinx, were common. The number of cases of pyo-salpinx reported by Dr. Wylie, was a larger proportion than usual, and the same was true of the cases reported by Imlach of Liverpool. During two years Dr. Coe had examined microscopically every specimen which came within his reach, and these included a large proportion of the cases in which the operation had been performed in the city, and he had found that in not more than one-fifth was pyo-salpinx or hydro-salpinx present; that hypertrophy of the muscular coat existed in a less number, and that hæmato-salpinx had been extremely rare. He had come to be skeptical concerning the diagnosis of pyo-salpinx where there was no pus in the tube; no pus, no pyo-salpinx.

With reference to symptoms, they were not due to the condition of the ovaries and tubes so much as to localized peritonitis and to neuralgia, pure and simple; and that these symptoms were removed by extirpation of the uterine appendages he did not believe. It would not be proven that a cure had been effected, until it could be

shown that the patient was well at the end of six years after the operation. The special point upon which he wished to insist was that the presence of insignificant changes in these organs was insufficient to subject a woman to the risks of abdominal section.

Dr. W. T. Lusk said that he was not, by any means, an enemy of the operation commonly known as Tait's, but he had seen it performed when ovaries had been removed which were said to be examples of cystic degeneration, but which in all respects were similar to those he was in the habit of exhibiting as specimens of normal ovaries, when he taught physiology. It seemed to him that since it had been learned that ovaries could be removed with but little risk to the life of the woman, surgeons were under strong temptation to perform the operation much too frequently. He had the suspicion that even Mr. Tait had sometimes removed ovaries and tubes which might have been properly included among the normal. The theory that the abdominal cavity should be opened in doubtful cases was at the bottom of the mischief which the paper of the evening was intended to combat.

Dr. Lusk had some doubt as to whether, in cases of pyo-salpinx, surgeons would long feel obliged to open the abdominal cavity and remove the tubes, in order to effect a cure; and he thought they would learn that it was possible to reach these tubes through the vagina, possibly by means of some such an instrument as that devised by Dr. Mundé, and thus be able to treat these cases successfully in that way.

Dr. W. Gill Wylie did not wish to defend any one for removing normal ovaries and tubes. He might have taken some out in his lifetime, and Dr. Coe ought to know, as he had had opportunity to examine nearly all the specimens he had obtained by operation. He was unable, however, to see how the matter was to be settled if an absolute distinction was to be made between the surgeon and the pathologist.

His own guide, with reference to removing the ovaries and tubes, had been the symptom, aided, of course, by what knowledge he could obtain by physical examination, and in only a very few instances had he been in doubt as to the condition of things that would be found on opening the abdomen.

Now he rarely performs the operation, except for pyo-salpinx, and not then unless the symptoms plainly indicate the operation and the woman wishes to have it performed. He thought that it was not very difficult to diagnosticate pyo-salpinx, but believed that the skill in diagnosis would consist in recognizing cases of pyo-salpinx in which rupture into the peritoneal cavity was liable to occur, and so produce general peritonitis.

When the patient was unable to perform her work, suffered from pain in the side almost constantly, or was bed-ridden, and there was pyo-salpinx, he believed that laparotomy for removal of the uterine appendages was justifiable, and was the proper operation to be performed. He regarded aspiration in such cases as only temporizing.

He believed that localized peritonitis was associated with the disease of the ovaries and the tubes in a very large proportion of cases, and regarded the history of repeated attacks of pelvic peritonitis as the best evidence of disease of the ovaries and tubes.

He especially avoids operating in the hysterical or hystero-epileptic cases, notwithstanding the tubes and ovaries were involved in almost all these cases, whether diseased or not he was not prepared to say.

Dr. W. M. Polk said that the answer to the entire question was that salpingitis was not a new disease; that it had been recognized for years; and that it had been cured over and over again without cutting the bellies of the women open and removing their uterine appendages, and they had afterward had babies. The name under which it had been described in the text-books was cellulitis; that is, there is a mass in the region of the broad ligament, sometimes continuous with the uterus, sometimes not, the uterus is fixed to a greater or less extent, with considerable fever in some cases, or slight in others, etc. On opening the abdomen in *fifteen* cases giving these symptoms he had removed a mass from the posterior surface of the broad ligament, but there was no induration whatever between the layers of this ligament. He wished to emphasize the point that when the masses thus removed were cut open, pus would be found in the tubes. He could not, therefore, help reaching the conclusion that they were talking about a condition which surgeons had recognized for years and had treated successfully, curing the patients.

Again, he had reached the conclusion that the indurations found were the result of extension of inflammation from the interior of the uterus; that if the cases were called peritonitis with salpingitis, a position would be taken that could be maintained; and that in the majority of cases of what are called cellulitis, there has been an ordinary endometritis which has extended to the tubes and to the peritoneal cavity; it may also extend along the line of the blood-vessels or the lymphatics.

He was also prepared to reach the conclusion that at first pelvic abscess was in nearly all cases nothing more than an accumulation of pus in the tube, which went on and involved the pelvic tissues; in a minority of cases the inflammatory process may originate between the layers of the broad ligament.

With all this he believed that there was a minimum number of cases, and these were cases of pyo-salpinx pure and simple, in which laparotomy for removal of the ovaries and the tubes might be performed with propriety, and was a justifiable procedure.

Dr. Paul F. Mundé said that, in 3,000 cases of disease of the female sexual organs he had treated, 117 were recorded as ovaritis and salpingitis, combined with peritonitis, which would sustain what had been said by Dr. Wylie and Dr. Polk. Besides, he had recorded 212 cases of uncomplicated ovaritis. He would therefore say that, according to his experience diseases of the uterine appendages were quite as frequent as generally supposed, although he did not, by any means, mean that cases requiring removal of the ovaries and tubes were so frequent as they might be considered to be by the followers of Mr. Tait. To say that there was something in the pelvis that was not normal, was not difficult; but that was not a diagnosis. With regard to operative interference, the symptoms must be the guide, and if they were such as would not yield to other measures, and the woman wished to have it performed, he regarded laparotomy for removal of the uterine appendages as a justifiable operation. Removal of normal ovaries, he did not approve of. Laparotomy, however, in these cases should not be resorted to rashly. He did not regard pelvic abscess as a pyo-salpinx which had worked its way out, but believed that it began in the cellular tissue.

Dr. E. Noeggerath still adhered to the views which he expressed eleven years ago, that the large majority of peri-uterine affections are of peritonitic origin; but that cases of cellulitis and perimetritis also occurred from other causes there was no doubt, although only under one circumstance, that is, whenever there has been a lesion of the mucous membrane of the uterus, and the lymph-sac of the lining membrane has been opened.

If, however, the inflammation of the lining membrane of the uterus was carried into the peritoneal cavity, and there was no lesion of the mucous membrane of the uterus, it was always by way of the tubes.

With regard to frequency, endometritis, with or without peritonitis and salpingitis, was the most common affection which we had to treat. He had become convinced that it was possible to relieve, by careful and rational treatment, a great many who were operated upon for removal of the uterine appendages. However, in the cases in which Dr. Wylie had operated, the specimen showed that the operation was justifiable in any case.

Dr. Coe said, in closing the discussion, that of course a certain amount of doubt must always attend clinical examinations that did not belong to the diagnosis of the pathologist who had the specimens before him.

The Academy then adjourned.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Stated Meeting, March 25, 1886.

Alexander S. Hunter, M.D., Chairman.

Dr. A. H. Goelet read a paper entitled

RAPID DILATATION OF THE CERVIX UTERI FOR DYSMENORRHŒA AND STERILITY,

in which he set forth his views concerning the indications for the operation and the method of performing it. The indications were: First, dysmenorrhœa, constant and severe, where stenosis with obstruction is present; this includes flexion with obstruction. In these cases the pain is relieved by the flow; it sometimes becomes more pronounced after marriage. Second, it is indicated in cases of acute flexion, where the probe can be easily passed after the proper direction of the canal has been ascertained; there is no actual obstruction—the dilatation is done to overcome the flexion. Third, it is indicated where little or no flexion exists, and there is only slight obstruction, the passage of the sound through the internal os is attended by pain, and there is no other cause of the dysmenorrhœa and sterility. Fourth, it is indicated in a class of cases which give a history of no inconvenience, but sterility exists and dysmenorrhœa, at first only slight, gradually increasing in severity; the sound passes without pain until the fundus is reached, and an albuminous fluid exudes from the os. In these cases endometritis did not exist previous to marriage, but the congestion consequent upon that state has lessened the calibre of the uterine canal and increased the secretion from the uterine cavity. Complete dilatation, if maintained, will alone cure some of these cases.

The proper time for performing this operation is a week or ten days after the cessation of the menstrual flow, and much can be done by preparatory treatment to favor a good result.

The mode of performing it consists in anæsthetizing the patient, exposing the cervix through a speculum, introducing a sound, first to ascertain the direction of the canal, fix the cervix, drawing it down slightly, introducing the dilating instrument, which usually goes through the internal os with a *jump*, making it evident that it has entered the uterine cavity, and then applying gentle pressure to the handles of the instrument until they are brought together and the required amount of dilatation has been effected, usually the full extent of the instrument.

If the dilator does not pass the internal os with a moderate amount of pressure, introduce the applicator *repeatedly*, armed with cotton, which will increase the size of the opening so that the instrument can be introduced *without* force. When the handles have been brought together they should be held for a few moments, then removed, and a Hank's dilator introduced, to be followed by the applicator. This done a tampon of boro-glyceride is applied and the patient put to bed. On the following day introduce a stem made of hard rubber, slightly curved, tunnelled, and perforated in the centre, and for a week this is to be removed daily, cleansed, and replaced, when it can be removed permanently, and the patient allowed to get up. Dr. Goelet regards the operation as perfectly safe and effectual, if done properly, and in eighty cases it has not failed in a single instance to cure dysmenorrhœa.

The following conclusions were reached: 1. Rapid dilatation is a perfectly safe and justifiable procedure. 2. If a stem be used in the after-treatment recontraction does not occur. 3. The operation is demanded by the following conditions: First, marked stenosis with or without flexion; second, acute flexion without actual stenosis or obstruction; third, slight stenosis shown by passage of the sound, and dysmenorrhœa and sterility existing without other cause; fourth, moderate endometritis, acquired, with narrowing of the canal and lack of free drainage for the discharge.

Dr. Paul F. Mundé said that he had been particularly interested in the study of rapid dilatation during the last twelve or thirteen years, and he had found that the operation was very satisfactory so far as dysmenorrhœa, depending upon a constricted uterine canal, was concerned. He thought that the cases of dysmenorrhœa in which he had failed to afford relief did not reach ten per cent. The dilatation had been practised either at the dispensary or in his office, and he was not aware that any bad results had followed the operation. He used at first Ellinger's dilator, being the first to bring the instrument to this country, and subsequently substituted Palmer's dilator. He had not been so successful in the use of other forms of dilatation. The relief in a proportion of his cases had been only temporary, and the operation was repeated. In all the cases referred to the dilatation had been performed without the administration of an anæsthetic.

In twenty-nine cases of *sterility* he dilated thoroughly and effectually under the influence of an anæsthetic, using the Palmer dilator in all except five (in these dilatation was accomplished by means of tents), and by repeated dilatation at his office for several months kept the canal open. In all these cases a stem was used, either hard rubber or glass, and the patients were kept in bed for a week or ten days. During the first week the stem was kept in place by means of a tampon, and afterward by the cup-shaped pessary devised by Thomas. On an average, the patients wore the stem for three months.

In only two cases did pregnancy follow, so far as he knew. In one of the cases the dilatation was done with laminaria tents, and in the other with a dilating instrument. Three out of the twenty-nine cases had pelvic cellulitis, due to the operation. He was inclined to believe that more than two got pregnant, but at the same time he believed that impregnation after dilatation was rather exceptional—especially if the woman has been married and sterile for five years—probably not more than twenty-five per cent.

Dr. W. Gill Wylie advocated the use of the dilator for the cure of dysmenorrhœa and sterility, and he also almost always uses it when he wishes to make a uterine application. He thought that sufficient credit, in general, had not been given to Dr. Ball, of Brooklyn, for bringing forward this method of treatment for these two conditions. After Dr. Ball read his paper Dr. Sims always used the dilator after using the knife, and the method had a very great influence on Dr. Sims' results. Dr. Wylie could cite four cases of sterility, in three of which pregnancy took place within one year after the operation was performed. In quite a number of cases Dr. Wylie believed it to be physically impossible to pass these dilators through the internal os at the first sitting. He never attempts the operation as long as the uterus is fixed. Dr. Wylie makes a distinction between dilatation and divulsion. Dilatation will cure four out of five cases of dysmenorrhœa, and the patients can be treated in the office.

In *sterility*, *divulsion* is more commonly practised. Certainly he had obtained much better results, both in dysmenorrhœa and in sterility than Dr. Mundé had reported, yet not all cases had been cured. He also regarded it as important, as did Dr. Sims, not to draw the cervix down with the tenaculum.

Dr. A. M. Jacobus had dilated, according to Wylie's method, in a good many cases, and, so far as dysmenorrhœa was concerned, with very good success. In some cases he knew that pregnancy had followed the opera-

tion, which he had in most cases performed without an anæsthetic. Dr. Jacobus also spoke of the necessity of treating the mucous membrane of the uterus, after dilatation had been accomplished, and believed that by so doing the results would be improved.

Dr. H. Griswold said that he had not been very fortunate in practising extreme dilatation, but had been more successful with repeated moderate dilatations.

Dr. Boldt regarded chronic endometritis as an indication for dilatation, and thought it should be performed in these cases as thoroughly as in flexion or stenosis of the canal. So far as sterility was concerned, his experience was about midway between that related by Dr. Mundé and Dr. Wylie. He had had a few cases in which cellulitis followed the operation. Dilatation should never be performed when there is cellulitis or old pelvic peritonitis.

Dr. J. H. Fruitnight had performed dilatation with almost uniform success; eighty per cent. of the cases having become pregnant. *Divulsion* should be done under an anæsthetic.

Dr. Mundé could not agree with Dr. Wylie that the cervix should not be drawn down with the tenaculum.

The Chairman had found that it was desirable, in the cases best adapted to this method of treatment, to have an instrument which is sharply curved at one-eighth or one-fourth of an inch from its distal extremity, and with such an instrument he had been able to pass the sharpest flexion readily.

Dr. Goelet said that, after all, sterility was a secondary consideration, the pain of dysmenorrhœa being the symptoms from which the patients wished to be relieved. Dr. Goodell had reported nineteen per cent. of cures in sterility. Statistics concerning sterility, however, were necessarily unreliable. He regarded it as somewhat dangerous to divulse to the extent of rupturing the circular fibres of the cervix, and also believed that dilatation could not be performed thoroughly without an anæsthetic. With regard to recontraction, he found that it occurred before he used the stem. He does not expect now that the os will remain as large at the end of a year as it was at the time the patient passed from under treatment, but if the sound passes freely it may be regarded that the patient is cured permanently if the dysmenorrhœa has been relieved. He had always found that in severe chronic endometritis the uterine canal was sufficiently open to admit of treatment without dilatation, and therefore to allow free discharge.

The Section then adjourned.

Epilepsy Caused by the Sight of a Cadaver.—M. Legrande du Saulle reports the following eight cases in which the first attack of epilepsy in children occurred immediately after they had seen a dead body. 1. A child, ten years old, daughter of an hysterical mother, saw her mother's corpse, and was seized with epilepsy, the attacks recurring every day. 2. A girl, six years old, the child of a drunkard, saw her father's body, was greatly terrified, and became epileptic. 3. A child, twelve years old, whose father was a drunkard, the mother hysterical, and whose brother died in convulsions, became epileptic immediately after looking on a cadaver. 4. The fifteen-year-old daughter of an intemperate father, whose uncle was of unsound mind, saw her father's dead body and was seized with epilepsy, and manifested homicidal tendencies. 5. A girl, seven years old, saw her father's corpse and became epileptic, the atttacks recurring at intervals of a week. 6. A young girl, fourteen years old, saw her father die suddenly, was seized with convulsions, and became epileptic. 7. A child, ten years old, began to suffer from nocturnal epilepsy after she had seen the dead body of her grandfather. 8. A young woman, twenty-five years of age, saw and embraced her father's corpse and immediately had an attack of epilepsy, the convulsions recurring about once a month.—*Lo Sperimentale*, December, 1885.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CONJOINT SCHEME AND THE EXAMINATION UNDER IT—WORKS ON NERVOUS DISEASES—CARDIOGRAPHY AND ITS USES—NOTES FROM THE SOCIETIES—QUININE DEPOSITED IN THE EYES—SYMPATHETIC OPHTHALMIA—DOUBLE OPTIC NEURITIS IN CEREBRAL HEMORRHAGE—A NOVEL TREATMENT FOR HERNIA CEREBRI—NERVOUS SEQUELÆ TO VARIOLA—NECROSIS OF LOWER JAW FROM MEDICINAL USE OF PHOSPHORUS—FURNEAUX JORDAN'S AMPUTATION—UNUSUAL PRESSURE-SYMPTOMS FROM A MEDIASTINAL TUMOR—DIFFUSED SYMMETRICAL PULMONARY CIRRHOSIS—ANTE-MORTEM DIGESTION OF STOMACH—THE PURIFICATION OF THE THAMES—THE LUNACY BILL—MR. STANSFELD'S MOTION FOR THE REPEAL OF THE CONTAGIOUS DISEASES ACTS.

London, March 16, 1886.

I have on several occasions referred to the new "Conjoint Examinations," and the ill-repute for fairness they have acquired—the first examination more especially—with both teachers and students. Changes in the first examination have been considered advisable, and the following alterations have been approved by the two colleges, and will no doubt come into force at once: 1. Medical botany to be omitted. 2. The option to be allowed of taking materia medica with either the first or second examination. 3. The area of examination to be more limited both in chemistry and materia medica. The chemical part of the latter is to be transferred to the examination in chemistry. More stress is to be laid on the physiological action of drugs. One alteration which is much needed, but to which the committee do not allude, is a more orderly mode of conducting the examination, so as to prevent such confusion as, I am told, reigned at the October examination. It is also a strange state of things that two great colleges cannot arrange to have the practical examination in chemistry conducted at one centre, instead of sending the candidates in batches here and there all over London. I was informed by a candidate who was examined in practical chemistry at the College of Physicians, that the laboratory improvised there was a veritable cellar, with "a dim religious light," and imperfect standing-room for the numerous candidates. The collection of reagents was in a lot of odd bottles irregularly labelled—some with the formulæ and some with the chemical names—suggesting the idea that, instead of ordering a proper series of reagent bottles from a wholesale chemist, the College had utilized for the purpose the sweepings of a dozen surgeries, possibly presented to it by as many general practitioners on relinquishing general practice to become physicians. Platinum was not to be had for the asking, so the flame-test could not be applied. Such was the account I received from an eye-witness, and, even if it be taken with a grain of salt, it reveals a by no means creditable condition of affairs. Let us hope for better things on the completion of the new Examination Hall, the foundation-stone of which is to be laid by the Queen to-morrow week.

It is often said that this is an age of nervous diseases. It certainly is one in which great attention is paid to them. I lately chronicled the formation of the Neurological Society. A very full "Handbook of Diseases of the Nervous System" has just been published by Dr. James Ross. It follows closely the lines of his enormous monograph on the same subject, and may, in fact, be regarded as the same book "boiled down." As is usual in modern medical monographs, it includes a very elaborate *résumé* of the anatomy, physiology, and general pathology of the subject. The book is being also issued in America; but, instead of being reprinted there from advance proofs, the whole issue has been printed in Philadelphia, and the copies for British use sent over here.

We are also promised a work on the same subject by Dr. Gowers. Dr. Gowers has already written several works on nervous diseases, including two very popular and successful ones on "The Diagnosis of Diseases of the Spinal Cord" and "The Diagnosis of Diseases of the Brain," respectively, the last-named being issued only last summer. The latest announcement is of a treatise entitled "Paralyses: Cerebral, Bulbar, and Spinal," by Dr. Bastian, one of Dr. Gowers' colleagues at University College Hospital. Dr. Bastian is evidently determined not to be behind. His forthcoming treatise will probably be found to be an expansion—brought up to date—of his former excellent little book "On Paralysis from Brain Disease," which appeared in 1875. The student of neurology has also two other recent books to choose from for his reading, viz., Dr. Wilks' Lectures on "Diseases of the Nervous System," and Professor Grainger Stewart's "Introduction to Diseases of the Nervous System."

Cardiography was discussed at some length at Tuesday's meeting of the Medical and Chirurgical Society. Dr. P. M. Chapman read a paper on the subject, in which he endeavored to show (from numerous observations by himself and others) that in the human subject the duration of the systole diminishes by a constant quantity as the pulse frequency increases. This constant diminution he made out to be .0085 seconds for every increase in frequency of five beats in the minute between the rates of forty-five and one hundred and fifty per minute. He pointed out the importance of this rapid diminution in duration of systole as providing the heart with more rest, and remarked that a high pulse frequency was not necessarily attended with rapid cardiac failure.

Dr. Broadbent believed the relative duration of systole and diastole could be gauged by the stethoscope. He considered blood-pressure had a great deal to do with the diminution of the duration of systole. In fevers this diminution was due to diminished resistance in the peripheral circulation, though in some, *e.g.*, scarlatina, the arteries were not relaxed, and no diminution occurred. The normal rhythm might be lost and auscultation reveal the complete "tic-tac." The diastole might be actually shorter than the systole. Similar phenomena were met with in acute renal disease, in which a slight elevation of temperature was accompanied by considerable increase in the peripheral resistance. In some cases of acute albuminuria the heart rhythm varied almost from day to day; here cardiac exhaustion played a part. He had also observed the lengthening of systole gradually diminish as the heart gained power. He believed that, controlled by careful stethoscopic examination, cardiographic tracings were of considerable value.

Dr. Sansom also spoke in favor of the cardiograph, and maintained that it could distinguish for us between mitral stenosis and aortic regurgitation accompanied by a thrill.

Dr. Angel Money rather threw cold water on the previous speakers by remarking that he had taken five hundred cardiograms, and had found them of little value.

LONDON, March 19, 1886.

No one can complain of there having been any lack of subjects for discussion at the society meetings within the last week or so. Such a variety of topics have been discussed and so many cases of interest brought forward that I can only give a few brief jottings about some of the most important items in the proceedings.

At the last meeting of the Ophthalmological Society, Mr. Lang showed a patient in whom a deposit of quinine (which had been given medicinally) had occurred in both eyes, without impairment of vision.

Mr. Nettleship read the report of the Committee on Sympathetic Ophthalmia. The report was based upon an analysis of two hundred cases. The conclusions at which the committee arrived were as follows: Removal of the exciting eye, whilst it had not been proved to have any marked effect on the progress of the sympathetic disease, certainly did not increase the severity of it. Comparing equal numbers of cases in which (soon after sympathetic inflammation) the exciting eye was, and was not, removed, the sympathetic inflammation was more fatal to sight when the exciting eye had *not* been removed. This argument for early excision, however, was somewhat weakened by the fact that the excess of recoveries after early excision was partly due to the natural mildness of the disease in those cases, and the excess of losses in the other cases to their greater natural severity. The committee considered that mercury had little or no effect. They thought early iridectomy (on the sympathizing eye) was less unfavorable than usually supposed. In a few cases it had been performed on the exciting eye, and in nearly all with benefit to both eyes. They considered sympathetic ophthalmia to be extremely rare without perforation of the exciting eye having occurred. With reference to the interval between the lesion of one eye and the sympathetic inflammation in the other, only a dozen cases were found in which it was more than a year, and only eighteen in which it was a month or less. When the disease occurred late there seemed a greater probability of blindness ensuing.

Dr. Bristowe read the notes of a case of cerebral hemorrhage in which double optic neuritis occurred. The case was diagnosed during life as one of cerebral tumor. There was conjugate deviation of the head and eyes which persisted for five or six weeks. There was paralysis on the right side of the body. At the autopsy a large cavity was found in the left optic thalamus containing partly decolorized clot. The posterior limb of the internal capsule was ruptured, and both the lenticular nucleus and the white matter of the temporo-sphenoidal lobe damaged. Dr. Hughlings Jackson concurred with Dr. Bristowe as to the extreme rarity of the association of optic neuritis with simple cerebral hemorrhage. Hemorrhage from a tumor might lead to error. A large clot, on the other hand, might be regarded as a foreign body.

At last week's meeting of the Clinical Society, Dr. Maclaren recounted a case of hernia cerebri which he had successfully treated by pressure applied within the skull. The case was originally one of compound fracture and hernia cerebri supervened. The protrusion was shaved off, and then a silver plate placed on the mass within the skull so as to block the opening, the plate being a little larger than the aperture. This had no ill effects, though the plate slipped once, reproducing the hernia cerebri. The protruding mass was again excised and the plate readjusted, this time the edges of the scalp being brought into apposition and sutured over the plate. The latter was left in place for two months when it was removed and, the protrusion of brain-substance not recurring, the wound soon healed. The patient made a good recovery, though some paralysis remained from the effects of the original injury.

Drs. Whipham and Myers read notes of two cases in which peculiar nervous symptoms, especially affecting the speech, occurred after variola. They had been unable to find any account of similar cases among English writers though they had found some references to the subject among continental ones. In both cases paralytic and ataxic symptoms occurred on recovery from the fever, but the most marked feature in each case was a peculiar affection of the speech. The syllables were "scanned." The onset was not sudden. There was no nystagmus and there were no tremors. The cases were therefore not examples of disseminated sclerosis. In one case complete, in the other incomplete, recovery from the paralytic and ataxic symptoms ensued. In both, however, the speech remained permanently impaired though some improvement occurred in one of the cases. The author suggested that minute scattered hemorrhages, chiefly cerebral, had occurred, and that such lesions might be more common in small-pox than in other fevers. Out of eight closely analogous cases tabulated by the authors this "scanned speech" had been a sequel in six cases in which the patients had had small-

pox. A lengthy discussion took place on this paper, in which Dr. Hughlings Jackson, Dr. Stephen Mackenzie, Dr. Barlow and Dr. Seymour Taylor, took part. Dr. Hughlings Jackson believed similar symptoms occurred without febrile disease and suggested thrombosis in a minute vessel of the medulla oblongata as a possible cause. Dr. Stephen Mackenzie said severe malaria could give rise to the same phenomenon but there was then generally tremor also.

Mr. Hutchinson described a case of necrosis of the lower jaw which he believed to have been produced by the use of phosphorus internally. The patient had taken $\frac{1}{33}$ grain of phosphorus (in pill) three times a day for two years. She had carious teeth, and inflammation had begun in connection with one of them, and probably about six or nine months after the phosphorus had been commenced.

On Monday evening, at the Medical Society of London, Mr. Edmund Owen read notes of a case in which he had performed amputation at the hip-joint by Furneaux Jordan's method. There had been abscesses in the hip- and knee-joints. Pyæmic abscesses formed in other parts, the liver was much enlarged, and the urine contained one-fourth albumin. The case did well, and when the boy (six years of age) returned from the seaside, there was a thick core of bone in the stump, and both the hepatic enlargement and albuminuria had diminished. There was a brief but lively discussion on Mr. Owen's case, and in replying he said he considered that albuminuria from scrofulous disease and crepitations at the apex of a lung were indications for operation. What would the surgeons of thirty years ago have thought of this? And yet some practitioners talk about the good old times!

Dr. Theodore Williams read notes of a case of mediastinal tumor in which unusual compression of neighboring organs was caused. There was severe dyspnœa and extreme difficulty in swallowing. The left vocal cord was fixed.

On Tuesday evening, at the Pathological Society, Dr. Percy Kidd described a case of lung disease in which (post mortem) diffused symmetrical cirrhosis of both lungs was found. There were many hemorrhages. Dr. Hanford exhibited a specimen which he regarded as one of ante-mortem digestion of the stomach.

Old Father Thames is at last to be relieved of a portion, at least, of the vast bulk of sewage hitherto poured into his channel. Within the last few years this has been tempered by admixture with a (relatively) small amount of disinfectants at the outfalls. The Metropolitan Board of Works have now prepared a scheme for dealing with the whole of the London sewage. It comprises three processes: 1, precipitation of solids by addition of lime and ferrous sulphate, $3\frac{3}{4}$ grains of the former and one grain of the latter being added to each grain of sewage and one or two hours allowed for the solids to precipitate; 2, compressing of the resulting semi-solid mass by filter presses to the smallest possible bulk, the final product (sewage-cake) being taken out to sea in large steamers if it cannot otherwise be disposed of; 3, purification of the effluent by admixture with sodium manganate and sulphuric acid. The Metropolitan Board of Works have not hitherto shown themselves particularly alive in sanitary matters, but they seem in earnest now. Their plan is being well received, and, if satisfactorily carried out, it is not too much to say that it will constitute one of the greatest sanitary reforms this generation has witnessed.

The coming extinction of private asylums, under the new Lunacy Bill, brought forward in the House of Lords, is to be opposed by those interested.

On Tuesday evening, in the House of Commons, Mr. Stansfeld succeeded in carrying his motion in favor of the repeal of the Contagious Diseases Acts. Their fate may, therefore, be regarded as sealed. Mr. Stansfeld secured a large majority—245 against a minority of 131.

OUR PARIS LETTER.

WHAT CONSTITUTES A GOOD SURGEON—HOW TO CULTIVATE STEADINESS OF HAND AND DELICACY OF TOUCH—THE MEANS WHICH SHOULD BE EMPLOYED TO PREVENT THE SPREAD OF PULMONARY TUBERCULOSIS.

PARIS, March 29, 1886.

DR. LANDOLT is a distinguished ophthalmologist, and for his age, he not being far from either side of forty, has already acquired a fame in his specialty which may be envied by many of his seniors. Like others of his colleagues, Dr. Landolt has a dispensary for eye diseases where gratuitous consultations are given to the patients of the poorer classes and demonstrations and lectures to those of the profession who may wish to attend. At the beginning of the year Dr. Landolt commenced a course of lectures on ophthalmic surgery at the École Pratique, a branch of the School of Medicine, the subject of his opening lecture being, "How to Handle Instruments in Ophthalmic Surgery." This lecture has just been published in pamphlet form, a short notice of which I thought would be acceptable to your readers. The lecturer began by indicating the points of difference that exist between ordinary and ophthalmic surgery. The difficulties attending operations on the eye are very great, but not insurmountable. As the organ we have to deal with is very small in proportion to other parts of the body its textures are delicate and it is particularly mobile. The essential requisites for an accomplished surgeon, says Dr. Landolt, are a steady hand, a clear head, good sight, and above all, self-confidence. If these qualities are necessary or indispensable in general surgery, how much more must they be in operations on such a delicate organ as the eye? In the former the whole arm of the surgeon is often called into requisition to complete a capital operation, such as cutting off an arm or a leg, whereas, in ocular surgery, this member should be altogether passive, simply acting as a lever to which the hand is suspended. But even this part of the limb is very rarely employed in ocular surgery; it is principally with the fingers that operations on the eye should be performed, and in order to render them effective they should be daily put through such exercises as will render them independent of each other, and the surgeon should cultivate that delicacy of touch and prompt manipulation which ophthalmic surgery demands. It is the fingering, added the lecturer, which makes a good ophthalmic surgeon; any movements directed by the wrist may destroy an eye. Dr. Landolt divides ophthalmic instruments into three categories, viz., instruments in handles, scissors, and forceps. Manipulation with those in the first category depends entirely on the position of the fingers on the instrument; with those in the second, the contact of the finger ought to be light and unremitting. Manipulation with forceps demands excessive freedom of the fingers, and a thorough manual command of them. It has often been said that manual exercises militate against the requirements of a good surgeon, particularly as regards manipulation. This Dr. Landolt states is an error, for, on the contrary, all that contributes to strengthen the physical and moral health of a surgeon will be of the greatest benefit to him.

At its last meeting the Council of Hygiene and of Salubrity of the Seine discussed a report submitted to it by Dr. A. Ollivier on the means that should be employed to prevent the spread or development of pulmonary tuberculosis. The following conclusions were adopted by the council: The agent, the most active in the transmission of tuberculosis, resides in the sputa. These, therefore, should never be thrown on the floor, nor on the linen, where they are transformed into dangerous pulverulent substances. Consequently phthisical patients should be recommended to spit into vases containing wood shavings. These vases should be emptied at least once a day and washed with boiling water. Their contents should be thrown into the fire and burnt. These

measures should be strictly applied to large conglomerations of persons, such as in schools, factories, barracks, hospitals, etc. In the case of a furnished room that has been a long time occupied by a phthisical patient, and particularly in the event of his death, it will be necessary to disinfect the room and the bedding with the fumes of sulphur. The clothing of phthisical patients should not be worn by other persons before being thoroughly washed in boiling water and then submitted to steam.

The next Congrès Français de Chirurgie, which will be its second session, will be held in Paris from October 18 to 24, 1886. The following are the subjects that will be discussed on the occasion: 1. The Nature, Pathology, and Treatment of Tetanus. 2. Nephrotomy and Nephrectomy. 3. Orthopedic Resections. 4. Operative Intervention in Traumatic Irreducible Dislocations.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 28, to April 3, 1886.

McELDERRY, HENRY, Major and Surgeon. Relieved from further duty in connection with New Orleans Exposition, and ordered, on the expiration of his present leave of absence, for duty in Department of the East. S. O. 71, A. G. O., March 26, 1886.

LORING, LEONARD Y., Assistant Surgeon. Granted leave of absence for one month, provided that during his absence he furnishes the necessary medical attendance at San Diego Barracks, Cal. S. O. 19, Department of California, March 24, 1886.

HOFF, JOHN VAN R., Assistant Surgeon. Granted one month's leave of absence. S. O. 29, Department of Missouri, March 29, 1886.

BANISTER, J. M., Assistant Surgeon. Granted leave of absence for one month, to commence on or about April 2, 1886. S. O. 63, Department of the East, March 26, 1886.

APPEL, AARON H., Assistant Surgeon. Granted leave of absence for one month. S. O. 66, Department of the East, March 30, 1886.

JOHNSON, RICHARD W., Assistant Surgeon. Relieved from duty at Fort Buford, Dak. Terr., and ordered for duty (temporary) at Fort Snelling, Minn. S. O. 28, Department of Dakota, March 29, 1886.

Official List of Changes in the Medical Corps of the U. S. Navy during the week ending April 3, 1886.

ATLEE, L. W., Assistant Surgeon. Ordered to duty on U. S. R. S. Vermont.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 3, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
April 3, 1886.....	0	15	58	4	5	59	5	0
Deaths.								
April 3, 1886.....	0	5	12	4	1	26	4	0

THE LATE DR. AUSTIN FLINT—IN MEMORIAM.—At a special meeting of the Executive Committee of the New York County Medical Association the following was unanimously adopted:

Whereas, It has pleased God to remove from our Association our beloved and highly honored friend, Professor Austin Flint, M.D., LL.D., one of our founders, and an ever-willing co-worker, we desire to record the great appreciation of our loss. Professor Flint, from early manhood, has ever been an indefatigable laborer in the field of medical science, and for half a century has been one of the most accomplished teachers and writers in the profession. His varied experience, extending over different portions of our country, enabled him on his settling in New York City at once to take the foremost place in the profession. As a consultant he was without a peer; his calm judgment, urbane manners, and strict conscientiousness made his presence ever welcome to his brethren. As a gentleman, he will be held in grateful remembrance by all with whom he came in contact; his charities were proverbial. His death will be the cause of universal sorrow, especially occurring at a time when his deliberate counsels are most needed. We can never forget that genial countenance, those cheerful words, and that buoyant disposition, which, amid the greatest of sorrows, always pointed out the ray of light affording hope.

Therefore, In testimony of your respect for the deceased, it is earnestly hoped that you will attend the funeral services at Christ Church, corner of Thirty-fifth Street and Fifth Avenue, on Tuesday, March 16, 1886, at 2 o'clock P.M. The members of the Association will assemble in the Sunday-school room, entrance on Thirty-fifth Street, at 1.45 P.M.

CHARLES A. LEALE, M.D.,
GLOVER C. ARNOLD, M.D., *President.*
Secretary.

Whereas, This Association has heard with sorrow of the death of Dr. Austin Flint;

Resolved, That in the death of Dr. Flint the profession has lost one of its brightest ornaments as a practitioner, as a teacher, as a writer, and as a man.

Resolved, That the members of this Association mourn the loss of a teacher who, during his long association of a quarter of a century with their Alma Mater, shed lustre upon her name, and whose instructions have been their safe guide in their practice.

Resolved, That above all it was the noble manhood of Dr. Flint that endeared him to his associates and pupils. In his intercourse with them there was no self-seeking, no desire for self-aggrandizement. No one ever solicited his aid at the bedside without feeling assured that Dr. Flint brought to it the resources of his learning and ripe experience, with the most sincere wish to use them for the cure, cheer, and comfort of the patient, and for the assistance of the physician.

LEROY M. YALE,
LAURENCE JOHNSON,
L. PUTZEL,
Committee.

THE LATE DR. ALFRED C. POST.—At a recent meeting of the Faculty of the Medical Department of the University of the City of New York, the following minute was adopted:

Resolved, That by the death of Alfred C. Post, M.D., LL.D., who has been for so many years a most honored and distinguished member of this faculty, and for thirteen years its president, the college has sustained a great loss which will be long regretted by its faculty, and by thousands of its alumni, both in our own country and abroad.

Resolved, That his service of thirty-five years links the name of Dr. Post inseparably with the remarkable men who founded this institution, and who won for it such a secure and influential position in the world of medicine.

As the last survivor of that distinguished faculty, he perpetuated its spirit and illustrated its traditions by his profound and varied learning, by his ability as an instructor, and by the lofty integrity of his character.

Resolved, That the faculty tenders its regretful sympathy to the members of his family, with the assurance that none appreciate better how much cause his children have to cherish a memory and a name so justly honored as that of their revered father.

CHAS. INSLEE PARDEE, *Dean.*

April 2, 1886.

THE LATE DR. CASPAR GRISWOLD.—At a meeting of the New York Clinical Society, held March 26, 1886, the following resolutions were adopted:

Whereas, One of our members, Caspar Griswold, M.D., M.R.C.S., has been suddenly removed by death;

Resolved, That we, the members of the New York Clinical Society, hereby express our sense of the great loss the Society has sustained, in common with the medical profession in general, in Dr. Griswold's death. During the several years of his membership in our Society the part which he took in its proceedings was of value to all his fellow-members, whether in the form of papers read by him, of oral contributions from his clinical experience, or of remarks in the discussions. To a frankness and pointedness of statement that always commanded attention he added a deference to the opinions of others that endeared him to all of us. By his early death we have been deprived of an esteemed and most valuable member.

Resolved, That we as a body respectfully tender to the family of our deceased associate this expression of our sympathy in their bereavement.

Resolved, That these resolutions be entered upon the secretary's minutes, on a page to be set apart for that purpose; that a copy of them be sent to the family of the deceased; and that they be furnished to the medical journals of this city for publication,

F. P. FOSTER, M.D.,
W. H. KATZENBACH, M.D.,
L. B. BANGS, M.D.,
Committee.

A. A. SMITH, M.D., *President.*
B. F. CURTIS, M.D., *Secretary.*

THE LATE DR. S. W. FRANCIS.—At a special meeting of the Newport Medical Society, the following resolutions were adopted:

Whereas, Through the Providence of Almighty God, there has been withdrawn by death from the Newport Medical Society, in the very prime of life, its Vice-President, Dr. Samuel Ward Francis; and

Whereas, It is the duty of man not only to mourn with those who mourn a mutual friend, but to acknowledge and put upon record social loss and public bereavement, thereby honoring the dead and stimulating the living to more faithful following of their good example; therefore,

Resolved, That in the death of Dr. Francis the medical profession of Newport, as well as all lovers of sound learning, literature, philanthropy, indeed of all that elevates and humanizes mankind, and the whole community in which he lived, have parted with one who in every sphere in which he moved, was always a bright and shining light.

Resolved, That our colleague, the most kind, affectionate, and tender-hearted of men, ever cheerful and light-hearted under cares that would have crushed most others, constant to duty, self-sacrificing and patient, was a worthy son of the illustrious parent whose memory he so revered, and that his active, beneficent life, true to the guiding-star of a steadfast faith in our Saviour, to whom he offered its every experience, was crowned by a most lovely and enjoyable death.

Resolved, That the sympathy of the Society be communicated to the bereaved family of the deceased.

Resolved, That copies of the above resolutions be sent to the Newport newspapers and to the New York MEDICAL RECORD.

HORATIO R. STIVER, M.D.,
EZRA DYER, M.D.,
FRANCIS H. RANKIN, M.D.,
HENRY ECROYD, M.D., *Secretary.* *Committee.*

BISMARCK AND HIS DOCTOR.—Prince Bismarck is again indisposed, it is said, and pleurisy is feared. That means work for Professor Schwenniger, the Prince's doctor. Schwenniger is the Roose of Berlin. Munich was to him what Brighton was to our English rising medico, and Bismarck's eldest son was his discoverer. This gentleman, having had some sixty or seventy pounds weight taken off him, and having been brought out of the very back teeth of death by following Dr. Schwenniger's advice, suggested that his father should also become a patient. The Chancellor was willing, but he could not go to Munich, and the doctor could not leave his practice there without a *quid pro quo*. The quid—several hundred quid—was found by his appointment to a Professorship in Berlin, which he now holds, in addition to an enormous private practice. He sees Bismarck daily, had brought him into perfect health, and had so tamed the tiger that the former periodical explosions in the Reichsrath had entirely ceased, and there had been no change in the Government since Schwenniger had charge of the Chancellor's digestion. Diet, not medicine, is what Professor Schwenniger swears by. No drugs, no mineral waters, no "kur" of any kind. Eat of only one dish, no matter what that may be. Oysters, lobsters, beef, mutton—eat your moderate fill of that, but touch nothing else at a meal; no vegetables, save perhaps a little salad, no sweets, no savories, and do not touch one drop of liquid until half an hour, in some cases an hour, after your meal is ended! There is the *crux* for those who like Chablis with their oysters, Madeira with their turtle, Marcobrünner with their fish, and D. and G.'s Gold-Lack with their first entrée. One dish only, and no drink until long after the meal is over? What does Lucullus—what does Sir Henry Edwards, of the statue—think of that?—*London World.*

THE CHINAMAN FROM A MEDICAL POINT OF VIEW.—The *Southern California Practitioner* does not consider the Chinaman a healthful element in society. It says: "The Chinamen, with their opium-joints, their universal habit of using tobacco excessively, their intemperance, their venereal diseases, their leprosy, their parsimonious way of crowding together in small sleeping apartments, their concubines, their lack of the good influence on health that is exerted by wife and home, their filth, their utter disregard of all sanitary and hygienic rules, their cold-blooded heartless neglect of each other when sick or wounded, and their continuous nightly round of dissipation, have long been a serious menace to the health of every city on the Pacific coast." About the same thing can be said of the lower class of Italians, and of Russian and Polish Jews which are now being poured upon these Eastern shores.

THE "DRY-BREAD CURE" is the latest craze, and it comes from "Lindenweise." It consists of the cold pack, a diet consisting of dry bread, twice a week a little rice and barley, and three times a week Hungarian wine, all to continue for six weeks. In cases of rheumatism, gout, etc., it is said to be effectual.

ACIDS IN THE PROPHYLAXIS OF CHOLERA.—A correspondent writes that Dr. Worms, of Paris, used diluted sulphuric acid in the treatment of the premonitory diarrhœa of cholera in 1849, and again in 1853, with great success. As Koch has found that acids are prejudicial to the life of the comma-bacillus, the writer says, the enthusiastic claims of Worms would seem to have received further confirmation. As hydrochloric acid is found in the normal stomach, it is suggested that that be used in place of the sulphuric.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 16 NEW YORK, APRIL 17, 1886 Whole No. 806

Original Lectures.

ON CERTAIN PROBLEMS IN THE PHYSIOLOGY OF THE BLOOD-CORPUSCLES.

THE CARTWRIGHT LECTURES, DELIVERED BEFORE THE ASSOCIATION OF THE ALUMNI OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, APRIL 3, 1886.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.

LECTURE III.

THE RELATION OF THE CORPUSCLES TO COAGULATION AND THROMBOSIS.

I PROPOSE, in this lecture, to consider the question of the relation of the corpuscles to the processes of coagulation and thrombosis, and I will first call your attention to the action of the *colorless corpuscles*. Our knowledge of the connection between these elements and coagulation dates from the observations of Buchanan in 1831. He attributed the action of what he called washed blood-clot, in inducing clotting, to the colorless blood-corpuscles included in the meshes, and which he said acted as a sort of ferment, comparing the action to that of rennet. These views have been greatly elaborated by Schmidt, of Dorpat, and his pupils, to whose researches we are indebted for an important extension of our knowledge in this department of physiology.

According to these well-known observations, the colorless corpuscles furnish the fibrinoplastin or paraglobulin, and the ferment, while the third element, the fibrinogen, exists naturally in the bloodp-lasma. Schmidt and his pupils hold that in furnishing these two elements to make up the fibrin, the colorless blood-corpuscles undergo disintegration and destruction. The evidence which they bring forward in proof of this is as follows: The blood-plasma of the horse may be readily collected by keeping the blood at a low temperature and allowing the red blood-corpuscles to subside, when a clear layer of plasma remains, consisting of plasma with a few red and many colorless corpuscles. Now, if a portion of this plasma is taken and whipped with twigs, the difference between the number of colorless corpuscles remaining in the serum and those in the original plasma represents the number of colorless corpuscles which have undergone destruction in the process of the formation of fibrin, and Schmidt and his pupils estimate that at least seventy per cent. of the colorless corpuscles undergo destruction in this way. They found that, instead of 15,000 colorless corpuscles in a cubic millimetre of the plasma before it is whipped —*i.e.*, before the fibrin is extracted—there were, subsequently, not more than 4,000 per cubic millimetre remaining in the serum. Examining the clot so obtained, it is stated that the colorless corpuscles have largely, if not entirely, undergone destruction in the formation of fibrinoplastin and the fibrin ferment. This is, perhaps, the most convincing experiment which any one of Schmidt's pupils has brought forward to sustain his view, that colorless corpuscles undergo destruction in the process of coagulation. There are many other points urged by Schmidt, to which I need not refer, as they are readily accessible in the works on physiology.

The researches of Wooldridge[1] have also shown that the colorless corpuscles play an important part in the formation of fibrin. He has been able to procure leucocytes from lymph-glands in a tolerably pure condition, by means which he has described at length in his paper. These leucocytes when added to an equal volume of a ten per cent. solution of common salt seem thus to be converted into a material resembling very closely ordinary fibrin. By experimenting with what is known as peptone-plasma he has obtained very striking results, which would appear to indicate still more clearly that leucocytes play an important part in this process. Peptone-plasma is obtained by injecting peptone into the blood-vessels and then bleeding the animal. Coagulation is prevented entirely by the influence of peptone and the red blood-corpuscles may be entirely removed from the serum by the centrifugal machine. This plasma shows no special inclination to coagulate, and is, of course, particularly suitable for experimental purposes. If the leucocytes prepared from the lymph-glands be added to this plasma coagulation at once occurs. If a small quantity of leucocytes are added the amount of fibrin produced is small; if a larger quantity is added, more fibrin is produced. In fact, Wooldridge has shown that the amount of fibrin produced in the peptone plasma is directly proportionate to the leucocytes added. The leucocytes seem themselves to form the fibrin—perhaps the entire mass, for the weight of the fibrin produced is the same as the weight of the leucocytes added. Moreover, the albumins in the peptone-plasma, after coagulation, can be shown not to have undergone any change, but remain the same, quantitatively and qualitatively; and a third point is that the leucocytes appear to have undergone disintegration.

There are other points in Wooldridge's researches to which I shall not have time to refer at length; but he concludes that it is only the dead plasma which converts the cells into fibrin, as the injection of leucocytes into the blood of the living animal produces no effect.

Such facts appear to show very conclusively that the corpuscles do undergo disintegration, and yet if the blood-plasma of the horse is examined after it has been whipped, leucocytes may be found in the serum, and also in the clot which has been produced, so that all the leucocytes have not undergone destruction. The existence of a certain number of the leucocytes after clotting has occurred has caused one of Schmidt's pupils, Heyl,[2] to divide the leucocytes into two sets: the alpha-leucocytes, which undergo destruction during clotting; and the beta-leucocytes, which remain. From observation, I do not believe that the number of the leucocytes which undergo disintegration in the clotting of the horse's blood is anything like so extensive as Heyl states.

Although the evidence in favor of the destruction of the colorless elements seems conclusive, yet if the fibrin formation is studied under the microscope, it appears to take place without any disintegration of colorless corpuscles, and it is extremely difficult to demonstrate their participation in the process. As is well known, it can be studied in a blood-drop examined in the ordinary way, or, better still, in the moist chamber. The time which elapses before coagulation begins is vari-

[1] Proceedings of the Royal Society, of London, 1881.
[2] Dorpat Dissertation, Fortschritte der Medecin, 1883.

able in different individuals and under different conditions. Usually, however, from fifteen seconds to two or three minutes elapse before the first appearance of the fibrin filaments is noticed. A slide can be prepared in a very few seconds, and there is sufficient time before clotting begins to examine the colorless corpuscles, the red corpuscles, and the blood-plaques. I must say that, in a very careful examination of the process of the formation of fibrin in this way, I have never seen any appearance in the leucocytes which would indicate that, as the fibrin was formed, they underwent disintegration or dissolution. On the contrary, they seem most stable elements, and the amœboid movements persist long after the fibrin network is thick and dense in the field. Certainly in the microscopical examination of the ordinary slide, or in the examination of the blood-drop in a moist chamber, I do not think anyone has seen the direct disintegration of leucocytes in the production of fibrin. An interesting and instructive experiment is to draw the blood of a frog, or of the horse (in which Schmidt and his pupils hold that the colorless corpuscles so rapidly undergo disintegration) into a fine capillary tube in which the process of clotting can be watched under the microscope. At first, the entire tube is filled with corpuscles; but, before long, it is seen that the clot contracts, and there is a peripheral layer of serum squeezed out. In a short time, leucocytes can be seen emerging from the clot in numbers, either squeezed out or migrating from it. This experiment, which can be readily demonstrated, forms an admirable mode, as Shäfer showed some years ago, of studying the process of coaglation.

A study of the histogenesis of fibrin as seen in the moist chamber, in the capillary tube, and in the ordinary slide, affords, I think, no evidence in favor of the destruction of the colorless corpuscles, but, on the contrary, is directly opposed to this view. In a certain number of instances the aggregations of blood-plaques, to the connection of which with the process of coagulation I shall shortly refer, have possibly been mistaken for colorless corpuscles.

The relation of the *red corpuscles* to coagulation is not regarded as very important; they play a more passive part. But Landois and others have described a process which can be readily seen in the blood of the frog and in mammalian blood, examined in serum. If we take the blood of the frog and examine it in the serum of the blood of the rabbit, it will be seen that the red corpuscles of the frog crowd into columns, and in a short time the hæmoglobin leaves the corpuscles, which become granular, and fibrin filaments form in their vicinity, and, according to Landois, the red corpuscles break down into a material which resembles granular fibrin very closely, indeed. These observations were made ten or eleven years ago by Landois, and they have been confirmed by others; but whether the corpuscles undergo transformation into the fibrin filaments, or whether fibrin only clots about these groups of corpuscles under the influence, perhaps, of a ferment which they extrude, it is impossible to say.

The relation of the *blood-plaques* to coagulation is particularly interesting, and is at present attracting a great deal of attention.

In the study of fibrin formation, as seen under the microscope, it has long been noticed that the fibrin filaments spread out as distinct rays from the minute aggregations which have been known as Schultze's granular masses. Schultze noticed these, as did also Ranvier, in 1873, who regarded these masses as centres of coagulation. That the fibrin sets in a thick, dense network about the plaques is readily seen, but it can also be noticed, particularly if healthy blood is examined in which the plaques are not very numerous, that the fibrin also appears quite independently of the plaques. It forms as distinct little needle-shaped bodies, presenting an appearance not unlike that of crystals. That these crystal-like portions of fibrin appear in regions of the field quite apart from the blood-plaques, is well seen in studying the process of coagulation in the moist chamber. Although the fibrin needles, when first formed, may appear in portions of the field unoccupied by blood-plaques, yet the network is usually most dense in their neighborhood, and when the entire field is covered with fibrin filaments, the disintegrated blood-plaques look like centres from which the filaments radiate.

The relation of the blood-plaques to coagulation, as examined experimentally, is even more interesting. If an ordinary ligature is passed through the femoral vein of a dog and allowed to remain for five or six minutes, or even less, the threads become coated with the plaques, as represented in Fig. 1. It is well to separate

FIG. 1.— Aggregation of plaques on a thread of cotton passed through femoral vein of dog and allowed to remain ten minutes.

slightly the filaments of the thread, and if exposed to the blood-stream for as long as ten minutes they become uniformly beset with the plaques. A few white corpuscles may be entangled among them, but undoubtedly the plaques are the first elements to aggregate about such a foreign body. The outlines are usually distinct, but if allowed to remain long in the vein those nearer the threads become more granular, and the distinct corpuscular nature is less evident. If a small brush of thread is tied to the end of a pen-handle, or any suitable object, then whipped in the blood, as freshly drawn, for four or five minutes, and then examined, the threads will have precisely the same appearance and are uniformly covered with blood-plaques. The colorless corpuscles are adherent here and there, but the blood-plaques form the striking elements. They adhere to the filaments of the thread, and several of the finer fibres of

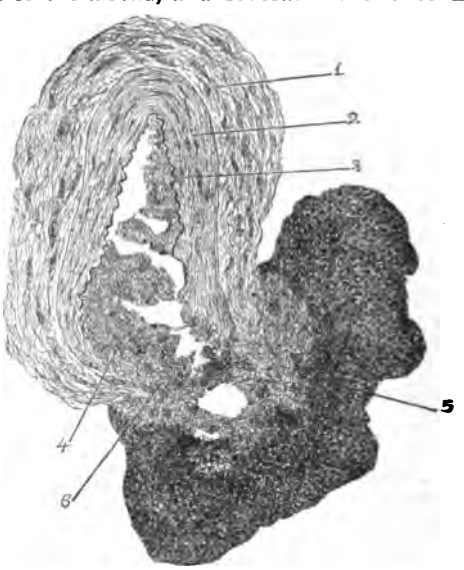

FIG. 2.—Section of Femoral Artery of Dog at the Site of Longitudinal Incision through which the Animal Bled to Death. (Cut rather obliquely, low power.) 1, 2, 3, Adventitia, media, and elastic lamina of intima; 4, aggregations of blood-plaques in enormous numbers about the intima and the cut margins of the vessel, 5, clot composed chiefly of red corpuscles; 6 ×, the cut end from which Fig 3 was sketched.

the thread may be entirely agglutinated by the aggregation of the blood-plaques about them. I can fully confirm these original observations of Bizzozero and Hayem, and the experiments have now been repeated by a number of observers. If the threads, after having been whipped in the blood, are carefully washed in a saline solution, all the red corpuscles can be washed away, so that few, if any, can be seen, and then if these threads are dipped into a coagulable solution, clotting will occur. This experiment was performed by Bizzozero in 1882, and has been repeated by other ob-

servers. It has been urged against it that possibly the threads beating about in the blood have absorbed some of the fibrin ferment. This is, of course, possible, but certainly in such threads the chief elements to be seen are the blood-plaques, and the leucocytes are very scanty; besides, the greater the number of the blood-plaques adherent to the thread the denser the coagulum will be, as if the blood-plaques furnished the material for the production of the fibrin or the ferment in large quantity.

Still more conclusive evidence of the participation of the blood-plaques is their relation to thrombi, as experimentally produced.

The femoral artery of a dog is exposed and a linear slit made in the vessel, through which the animal is allowed to bleed to death. This portion of the vessel is rapidly excised and placed at once in alcohol; or, still better, first in osmic acid, and then sections carefully cut through the part where the incision was made, when such an appearance as seen in Fig. 2 will be found. Occupying the cut edges, and filling in places the lumen of the vessel, a finely granular material is seen under a low power. Surrounding it, to the outside, as represented at 5 in the figure, there is a darker material made up largely of dark clots composed of red blood-corpuscles. In the central portion, in immediate contact with the cut edges of the vessel, in contact with the elastic lamina of the intima, and occupying the interstices of the ragged surfaces, are the blood-plaques. This was so stated by Bizzozero in 1882, and it has been confirmed in an elaborate investigation from the laboratory of Langhans,[1] in Berne. My own observations are in harmony with these, and we may say that the plaques are the elements which first settle on the edges of a wounded vessel, and which form the basis of the thrombus.

FIG. 3.—End of Small Portion of Adventitia indicated at × in Fig. 2. The fibres are everywhere surrounded with granular disintegrating plaques.

Fig. 3 represents the end of a portion of the adventitia indicated by a cross (×) in Fig. 2. The sketch shows the blood-plaques in a condition of granular disintegration, but under a high power the outlines can be distinctly defined, and anyone with a knowledge of these elements and of the changes they undergo has no difficulty in recognizing them. If the cut ends of the vessel are examined when fresh, in osmic acid or Pacini's fluid, the elements are still more clearly seen, and are readily determined to be identical with those in the circulatory blood and in the granule masses. The elaborate investigations of Eberth, published in the January number of Virchow's *Archives*, 1886, clearly demonstrate that the plaques are the first elements to settle and lodge on the lacerated portion of the vessel or on a portion of vessel destroyed by acid or by caustic.

The relation which the blood-plaques bear to the so-called white thrombi is particularly interesting. Zahn[2] appeared to prove by his observations that white thrombi are composed exclusively of colorless corpuscles, and the current idea is that to a lacerated portion of a vessel the colorless corpuscles adhere and undergo disintegration, become granular, and form in this way a white thrombus. Bizzozero, Hayem, and Eberth have shown, I think pretty conclusively, that if a needle is passed across a vessel in the omentum, or in the mesentery, so as to injure it, the first elements which are collected at the site of the injury are not the colorless corpuscles, or the red corpuscles, but the blood-plaques, which form distinctly aggregated masses—white thrombi. There may

FIG. 4.—Plaques from Thin Clot on Warty Endocarditis.

be colorless corpuscles as well, but the chief bulk of the thrombus, which has formed at the site of the injury, is undoubtedly made up of blood-plaques.

A study of white thrombi as met with in man leads us to the same conclusion. These structures have been long recognized, and have been supposed to be made up largely of colorless corpuscles. We find them on atheromatous ulcers, forming thrombi in the femoral veins, in the auricles and ventricles, on the valves in endocarditis, and as the lining of aneurismal sacs. The examination of the superficial part of a white thrombus in osmic acid, Pacini's fluid, or even salt solution, reveals the fact that it is composed of blood-plaques in closest contact with the blood-column. So far as my observation goes, without exception, in the peripheral part where they have not undergone disintegration, such thrombi are made up of small circular, disk-like elements which anyone familiar with the blood-plaques will readily recognize as such. Fig. 5 represents two

FIG. 5.—White Thrombi composed almost entirely of Blood-plaques. Abdominal aorta; woman dead of cancer of the stomach. (From specimen in Museum of McGill Medical Faculty, Montreal.)

or three white thrombi in the aorta immediately above the bifurcation. The case was one of cancer of the stomach, and when the aorta was slit open these masses were seen looking as if a neoplasm from the retroperitoneal glands had perforated it. They were grayish-white in color, soft, and on examination the elements of which they were composed are shown at Fig. 6. There

FIG.—6. Plaques from Specimens illustrated at Fig. 5.

could be no doubt as to their nature; they were blood-plaques, presenting the circular appearance, and on profile the narrow linear aspect of these bodies. This was the first specimen in which I was able to demonstrate that the white thrombi were made up of the blood-plaques. Since then many specimens have fallen under my observation, particularly in conneetion with vegetations on the valves of the heart, the thrombi in aneurisms, and upon atheromatous ulcers. I would ask those specially interested in the question carefully to observe the

[1] Lubnitzky: Archiv f. exp. Pathol. und Pharm., 1883.
[2] Virchow's Archiv, 1862.

white thrombi, more particularly the superficial parts of them in contact with the blood-current. I think they will find, without exception, that they are composed not of colorless corpuscles, nor of a reticulated fibrin network, but almost exclusively of these plaques which, in the deeper parts, have undergone granular disintegration, but in the superficial parts still retain their normal shape and appearance.

The observation that these white thrombi consisted of blood-plaques was confirmed in 1882 by Bizzozero, and in the same year by Hayem, and since then it has been noted by a number of observers.

Fig. 7 represents a small aneurism of the thoracic aorta, which shows on its lining membrane a number of soft, grayish-white curvilinear elevations, such as all observers have noted, and on examination these will be found to be made up of elements similar to those which

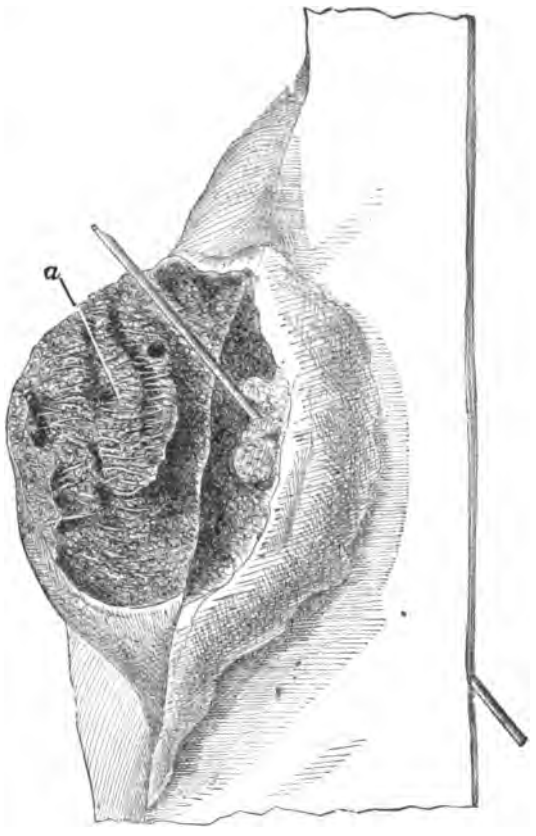

FIG. 7.—Small Aneurism of Thoracic Aorta. Showing the internal wall of the sac covered with numerous curvilinear elevations, grayish-white in color, and composed of blood-plaques. (Specimen in Museum of McGill Medical Faculty, Montreal.)

compose the white thrombi, namely, distinctly circular, disk-like blood-plaques. The changes which these bodies undergo are very peculiar. As I mentioned in my first lecture, they appear in masses as soon as they are withdrawn, and then undergo remarkable transformation, whereby they lose their outline and become converted into a granular material in which the individual plaques become unrecognizable. That change occurs in the blood-plaques as they form these white thrombi. In the deeper portion of the thrombus, represented at Fig. 5, the blood-plaques had disintegrated and become granular, and were no longer distinctly recognizable; but at the superficial part they were distinct, their outlines were well marked, and in osmic acid, in teased preparations, distinctly made out and readily preserved.

Eberth's researches are of special value in this connection, and appear to place the experimental evidence of this important point on a firm basis, and explain the production of white thrombi. In the circulating blood the blood-plaques keep with the red corpuscles. In the rapidly circulating blood the central portion of the vessel is represented by a dark line in which you see no corpuscles whatever; nothing but a red streak, on either side of which there is the so-called still layer, with an occasional leucocyte. This represents the blood-current in its active rapid condition. If the circulation becomes slower, then it is seen that, in addition to the leucocytes which collect in the still layer, the blood-plaques appear; but in the rapidly circulating blood, as seen in the mesentery or the omentum of the guinea-pig or the rabbit, the still layer, the peripheral portion, contains no blood-plaques, and only occasionally a leucocyte—in fact, the corpuscles are separated from the wall of the blood-vessels by a distinct tube of plasma.

Eberth brings forward these facts in explanation of the development of white thrombi. So long as the circulation is active the plaques remain central, and adhere neither to each other nor to the vessel-wall; but when, from any cause, the current is slow, this natural disposition of the corpuscles is disturbed, and the plaques tend to collect at the periphery, and aggregate in groups at any point which has been injured, or which has been deprived of the endothelium. Slowing of the blood-stream is, then, in this view, one of the essentials in the formation of white thrombi, and this is entirely in accord with what we know of the pathology of these structures. It is not alone the presence of intact endothelium which prevents the formation of thrombi in the vessels, for we frequently find in aneurisms, on the heart-valves, and on the aorta, denuded and rough regions upon which thrombi do not form. Indeed, thrombi are not often found on atheromatous ulcers, which would offer most favorable localities for their formation if it is the epithelium alone which prevents it. The other condition would appear to be slowing of the blood-stream, which has long been known to play such an important part, and the true significance of which is well seen in the light of these observations of Eberth.

What I contend is, that the white thrombi are composed chiefly of plaques, and that the colorless corpuscles play an altogether insignificant part in their formation, and the experimental evidence which has been offered of the relation of these structures to thrombosis is borne out completely by a study of morbid anatomy.

The further development of the thrombus results from the disintegration of the plaques, and the formation of a finely granular material in which there may be no fibrin filaments. We must recognize a granular or stroma fibrin, as Landois calls it, and a fibrillar or plasma fibrin. The former is a granular material which develops when cells undergo the peculiar metamorphosis described by Weigert as coagulation-necrosis, and it is this in reality which goes on in the white thrombi. There may be no trace of fibrin filaments, but the chief mass is made up of a granular matrix in which the outlines of the plaques are no longer visible. The stages of this transformation I have traced in thrombi of the femoral vein, and it is well seen in passing from the superficial parts to the deeper parts. The plaques on the surface of a white thrombus, as at Fig. 5, may be intact, or they may show signs of disintegration and conversion into a granular débris. The central softening of a white thrombus results from the liquefaction of the plaques, and is a result possibly of the presence of fluid in greater abundance than is necessary for the process of coagulation-necrosis. Quite recently, in a case of typhoid fever, I had an opportunity of studying the histological characters in thrombi in the femoral veins. In both they were mural, and had originated behind the valves. The attached portion was a light brown-red color, but the upper half was of a dead-white color, and the extension into the iliac was of the same character. The line of demarcation between the two was pretty clearly defined. At the thickest portion the superficial white thrombus had softened to an opaque milky liquid, but at the prolongation it was firm and consistent. A few colored and colorless corpuscles were scattered through

the white thrombus, but the great mass of it was composed of blood-plaques, and a study of the softened milky region showed clearly that the granular detritus was composed of the altered plaques. In the deeper parts the plaques became less and less distinct, until a point was reached at which the individual cells were no longer visible, and there was nothing but an indifferent matrix. The contrast in color between the outer and inner portions indicated a difference in age, possibly in mode of formation, though in the outer portion of the brown and the inner part of the white, close to the line of demarcation, the structure seemed identical.

In the light of these new observations on the connection of the blood-plaques with thrombi, the entire question may be restudied with advantage, particularly the relation of the white and mixed thrombi, and the mode of formation of the clot in aneurisms. Of the truth of the statements here made regarding the connection of the plaques with thrombosis, I feel assured from careful observation on the structure of the white thrombi (1) on atheromatous ulcers, (2) on the valves of the heart, (3) in aneurisms, and (4) in thrombi of the veins. I have not lately had an opportunity of examining a "globular vegetation" of an auricle or ventricle, but I venture to state that they are composed originally of similar structures.

Original Articles.

NITRO-GLYCERINE IN THE TREATMENT OF CHRONIC NEPHRITIS.[1]

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NITRO-GLYCERINE, discovered by Sobrero in 1847, is a colorless (when perfectly pure), transparent liquid, with a sweetish, aromatic odor, slightly soluble in water, readily soluble in absolute alcohol and ether, soluble also in oils and fats. Its action resembles that of the nitrites. Mathew Hay[2] has shown that nitro-glycerine is really a nitrate of glyceryl, but that in the course of its decomposition by an alkali, two-thirds of its nitric acid are reduced to nitrous acid, and unite with the alkali to form a nitrite, while the remaining third is set free without reduction and forms nitrate of potash; and that such a decomposition is probably effected in the presence of the alkaline constituents of the blood and other alkaline fluids of the body. Its physiological effects have been investigated by Demne, Albers, Eulenberg, Pelikan, Werber, Tait, Lauder Brunton, Hay, Huchard, Marieux, Thompson, and others. Its physiological effects upon man, so far as ascertained, may be summarized as follows: A dose of one to ten minims of a one per cent. alcoholic solution produces, in six or seven minutes, a sensation of intra-cranial fulness, more or less intense headache, often accompanied by vertigo, ringing in the ears, and occasionally a temporary amblyopia. The cardiac pulsations become stronger, more rapid; the arteries throb violently; the pulse is accelerated; arterial tension is markedly lowered, the face flushes. The respirations are observed in certain cases to be slightly quickened. A moderate diaphoresis sometimes occurs. The lachrymal and salivary secretions are unaffected. A diuretic action is very generally claimed by English and German observers, although denied by several French investigators. The above phenomena are frequently followed by a feeling of lassitude and an irresistible inclination to sleep.[3]

In physiological doses the circulatory system is apparently chiefly affected.

The ventricular contractions become more rapid and *forcible*, the peripheral vessels dilate, arterial tension is lowered.

Dr. William C. Thompson's[1] new and valuable method of instantaneously photographing the living organs of animals *in situ* clearly illustrates the effect of nitro-glycerine upon the ventricular contractions.

One per cent. solutions applied directly to the surface of the heart, or injected hypodermatically, produce contractions, which are apparently *quite similar* in degree to those obtained by digitalis used in a similar way.

The physiological effects of nitro-glycerine upon the circulation were first conspicuously taken advantage of by Dr. Murrell[2] in his use of the drug in angina pectoris. Its efficiency in relieving the arterial tension and spasm which so frequently exist in this disease was brilliantly demonstrated and has obtained general recognition. During the past several years nitro-glycerine has been introduced gradually into the therapeutics of renal disease. I shall consider its use, first, in the treatment of those grave disturbances of the nervous system which are included under the general term of uræmia. Notwithstanding the time and labor which have been expended in the investigation of the pathogenesis of this condition, no *single* theory of the very many which have been advanced seems adequate to explain either *all* its symptoms or their occurrence in *all* cases. It seems not improbable that *many factors, acting in varying combinations and intensity in different cases*, are concerned in its production.

Increased arterial tension is so constantly associated with the symptoms of acute and chronic uræmia, that it is impossible to disregard its probable participation in their production. The assumption of arterial spasm in connection with high tension harmonizes with many of the paroxysmal phenomena of the uræmic state, and with the results obtainable from therapeutic agents which unquestionably relieve spasm.

That normal or low-blood tension and feeble heart-action not infrequently obtain at certain stages of both acute and chronic nephritis is well recognized; but in the experience of many careful observers, and certainly in my own, well-marked uræmic symptoms are absent under these conditions.

While inclined to believe that active purgation, diaphoresis, and, under certain circumstances, venesection, are oftentimes useful means for relieving uræmic symptoms, I would suggest that their action admits of a two-fold interpretation. Assuming that the retention of excrementitious products in the circulation may be *one* of the factors in the pathogenesis of uræmia, and that their elimination may be facilitated by the use of the above therapeutic agents, at the same time it must be borne in mind that relief of arterial tension and spasm also may be *directly* effected by similar measures. The remarkable power of nitro-glycerine in lowering arterial tension and relieving spasm has been referred to in the consideration of its physiological effects, and is to-day widely recognized. The uræmic symptoms, which from analogy and other theoretical considerations would seem to point especially to arterial spasm as their chief pathogenetic factor, are the well-known intense and persistent headache, asthma, and convulsions; and it is in the treatment of *these* symptoms that nitro-glycerine yields perhaps its most brilliant results.

I possess the notes of a large number of cases of uræmic headache which have been promptly and wholly relieved by the use of this agent alone. Free purgation, opium, and chloral are certainly often efficient in controlling this distressing symptom, but quite as often the relief is only temporary and their continued use is without effect. The daily systematic use of nitro-glycerine, on the contrary, is capable, in my experience, of continuously controlling this symptom, in many cases.

The comparative frequency with which an isolated convulsion occurs in uræmia may be urged as an objec-

[1] Read before the Section of Medicine of the New York Academy of Medicine, February 16, 1886.

[2] The Practitioner (London), 1883, vol. xxx., p. 428.

[3] The cumulative effect of nitro-glycerine is still under discussion.

[1] A paper by Dr. Thompson, describing his method and containing some of his results, has been published since the date of writing. See MEDICAL RECORD, March 13th.

[2] Lancet (London), 1879, vol. i., pp. 80, 113, 151, 225.

tion against assigning to nitro-glycerine the efficiency in often controlling this grave disturbance of the nervous system which I believe it possesses. I have the notes of several cases in which there was no recurrence of the convulsive attack following its administration. In relieving renal asthma or dyspnœa its action has been somewhat variable in my hands. Complete relief has been obtained in certain cases, in which opium and chloral failed to procure it. On the other hand, I have seen its use unattended with any appreciable benefit. The widely varying susceptibility to nitro-glycerine in different individuals, and the duration of its effects, should be regarded in its administration. In the treatment of *acute* symptoms I have found the following the most efficient method. The initial dose should not exceed one minim of a one-half per cent. alcoholic solution, which represents gr. $\frac{1}{200}$ of pure nitro-glycerine. If no unusual susceptibility is exhibited, one minim of a one per cent. solution (gr. $\frac{1}{100}$) may be given at the expiration of a half hour, and repeated at intervals of an hour, until relief is obtained or the inefficiency of the drug is demonstrated. Two or three single doses of gr. $\frac{1}{100}$ may be given at intervals of a quarter of an hour, in the presence of grave symptoms, and then at intervals of half an hour to an hour. From the extraordinary tolerance of nitro-glycerine which is occasionally shown, I prefer at first to produce a slight feeling of discomfort (sensation of intracranial fulness, flushing of the face, slight constriction about the throat), with the single dose. Its proper strength can be thus accurately determined.[1]

During the past year papers have been published by Professor Rossbach,[2] of Jena, Burzhinski,[3] of St. Petersburg, and Lentovsky,[4] of Cronstadt, on the systematic use of nitro-glycerine in the treatment of chronic interstitial nephritis. Rossbach reports several interesting cases, in which distressing uræmic asthma, accompanied with greatly increased arterial tension, was promptly relieved, *pari passu*, with diminution in the blood-pressure, by its use in doses of gr. $\frac{1}{120}$ repeated at varying intervals of a quarter of an hour to two hours. In one of the cases morphine and chloral hydrate had failed to give relief. Œdema of the feet and bronchial catarrh, which were present, also disappeared under its use. Rossbach recommends single doses of gr. $\frac{1}{120}$ to gr. $\frac{1}{60}$, ten or fifteen times daily, at hourly intervals. Both Rossbach and Burzhinski give tabulated reports showing the effect of nitro-glycerine upon the daily excretion of urine, the percentage and actual amount of urinary albumen, and the specific gravity of the former.

Their results very closely coincide.

I append the following table, given by Rossbach, of a case of interstitial nephritis in a male, twenty-two years of age, with extraordinarily high blood-pressure and retinitis albuminurica :

Daily quantity of urine.	Actual daily excretion of albumen.	Percentage of albumen.	Treatment.
Cubic centimetres.	Grains.	Per cent.	
4,188	14.812	0.354	Without treatment.
3,980	11.132	0.280	
4,356	11.542	0.263	
4,530	13.139	0.290	
4,730	13.130	0.277	
5,355	15.347	0.287	
4,435	13.058	0.294	
4,908	13.591	0.277	Nitro-glycerine, gr. $\frac{1}{60}$, every three hours.
4,985	11.865	0.238	
4,810	11.146	0.232	
5,115	13.255	0.259	

Rossbach[5] deduces from his observations the following conclusions :

1. That the increased urinary excretion in interstitial nephritis must depend upon other conditions than high blood-pressure.

2. That the increased blood-pressure probably has a causal share in the production of the severe symptoms of interstitial nephritis, such as retinitis, asthma, etc.

3. That nitro-glycerine is an excellent remedy in chronic nephritis ; that it prolongs life and relieves severe symptoms.

Burzhinski[3] summarizes the results of his investigations as follows :

1. Nitro-glycerine in small does diminishes the quantity of urinary albumen passed per diem, and still more markedly the percentage of albumen in the urine.

2. The diurnal quantity of urine is perceptibly increased by nitro-glycerine, this increase persisting some time after the nitro-glycerine has ceased to be given.

3. Gradually increasing doses of nitro-glycerine influence still more decidedly the excretion of albumen.

4. With the exception of slight and transient headache, nitro-glycerine does not give rise to any disagreeable symptoms.

Lentovsky's[4] results correspond with those obtained both by Rossbach and Burzhinski. He also states that during the use of nitro-glycerine dropsy rapidly disappeared, the general condition improved, the body-weight augmented.

During the past three years I have had the opportunity of *systematically* treating a number of cases of chronic nephritis, both of the parenchymatous and interstitial (presumably) forms, with nitro-glycerine. My investigations were undertaken without preconceived views in its favor, but with the earnest desire to impartially observe its effects. The following cases illustrate the effects which I have observed from its use, upon acute and chronic (uræmic) symptoms, upon the excretion of urine and albumen in chronic nephritis, and finally upon the course of this disease.

Case I.—Miss A——, aged thirty-six. There is a history of gout on both the paternal and maternal sides. A brother died of chronic nephritis associated with gout. The patient's mother has chronic nephritis and gout. Two brothers suffer respectively from chronic nephritis and gout, and from gout alone. The patient has had a number of attacks of acute gout during the past five years. Albumen was apparently discovered in the urine prior to or about the time of the first attack, and has been present constantly since. During the past two years she has suffered from a great deal of headache and occasional attacks of violent vomiting, apparently independent of errors of diet. The patient is markedly anæmic. There is moderate cardiac hypertrophy, with accentuation of the aortic second sound. There is increased arterial tension without appreciable thickening of the radials. The urine contains a large amount of albumen, hyaline and granular casts ; specific gravity 1.008.

October 14, 1885.—The patient has suffered almost continuously since September 1st with headache, so intense much of the time as to incapacitate her for all work ; there has been more or less accompanying nausea, and on two occasions during this period violent attacks of vomiting have occurred. Arterial tension is very marked ; the bowels move freely. Nitro-glycerine, gr. $\frac{1}{100}$, in pill form, three times daily, was ordered.

October 17th.—The headache has greatly diminished. The patient says that "she feels her head," but is not made uncomfortable by it. Ordered nitro-glycerine, $\frac{1}{100}$ gr., every three hours.

October 18th.—Patient is *wholly* free from headache, the first time since September 1st. The pulse is 78, and has lost its hard, persistent character. Ordered the nitro-glycerine to be continued in the same doses. Up to the present date, four months, there has been complete freedom from headache, except on a single occasion. The patient also has been free from nausea and vomiting. The nitro-glycerine has been taken continuously in the same doses and at similar intervals.[6]

[1] Gelatine-coated pills, each containing $\frac{1}{100}$ gr., I have found quite as efficient as the alcoholic solution.
[2] Berliner Klinisch. Wochenschr., No. 3, January 19, 1885.
[3] Practitioner (London), vol. xxxv., No. 111, pp. 167–170. (Translated from the Vratch, St. Petersburg.)
[4] Meditz. Pribavl. k'Morsk. Sborn, September, 1885, p. 188.
[5] Loc. cit.

[1] Meditz. Pribavl. k'Morsk. Sborn, September, 1885, p. 188. [2] Loc. cit.
[3] The $\frac{1}{100}$ grain of nitro-glycerine produces a slight feeling of constriction about the throat, and often a slight flushing of the face in Miss A——.

CASE II.—Mrs. A——, aged sixty-five, first consulted me in the autumn of 1883. The patient is the mother of Miss A——, whose history has above been given. The patient's symptoms had been referred to a disordered digestion. Examination revealed distinct cardiac hypertrophy (apex beat in fifth space, one inch outside of mammillary line), accentuation of aortic second sound, thickening of radials, and marked arterial tension. The urine contained a trace of albumen, hyaline and granular casts; specific gravity, 1.010. During the following year the patient was troubled, more or less, with severe "palpitation" and frequent attacks of violent vomiting, apparently independent of errors of diet. The urine was examined frequently; it was of uniformly low specific gravity, and was never free from a trace of albumen. The arterial tension was constantly high. Nitro-glycerine in $\frac{1}{100}$ gr. doses, three times a day, was ordered in December, 1884. The patient is a very intelligent woman, and has noticed in her attacks of palpitation that the pulse becomes "hard," and that additional doses of nitro-glycerine taken at such times have the effect of relieving both conditions. The drug has been taken continuously from the above date up to the present time—four to six times daily, in $\frac{1}{100}$ gr. doses. The patient has been under my constant observation during this period; she has had no more than two or three attacks of vomiting, the palpitation is almost wholly under control, the arterial tension is, comparatively, rarely high. The urine at times is wholly free from albumen, at times it contains a trace. Aside from a careful regulation of her life, of the bowels by means of simple laxatives, and the use of some preparation of iron,[1] no other treatment has been employed. The attacks of palpitation, inasmuch as they are uniformly associated with high arterial tension, and are as constantly relieved by nitro-glycerine, I am inclined to ascribe to temporary arterial spasm, through which increased work is thrown upon a heart already overtaxed.[2]

CASE III.—Mrs. C——, aged sixty-seven, first consulted me in the autumn of 1881. She was suffering from disordered digestion, impaired nutrition, and frequent headache. The patient was anæmic. There was high arterial tension, with markedly thickened radials and temporals. The aortic second sound was accentuated, the apex beat was felt in the fifth space, three-quarters of an inch outside of the mammillary line. The urine contained a small amount of albumen, hyaline and granular casts; specific gravity, 1.009. There was polyuria. Although the patient's life was carefully regulated, and the more or less routine treatment usual in such cases employed, she grew gradually worse during the succeeding two years. Symptoms of acute uræmia, associated with great arterial tension, occurred on several occasions. Almost daily attacks of distressing uræmic asthma finally supervened, and on two occasions retinal hemorrhage occurred. In the autumn of 1883 I first instituted a systematic use of nitro-glycerine. The initial doses were $\frac{1}{100}$ gr., three times daily, almost immediately increased to similar doses every three hours. Relief of the asthma was immediate and complete, greatly to the astonishment of the patient. The improvement in the character of the pulse was marked, and was quite uniformly maintained. The general condition also gradually improved, and very fair health was enjoyed. From the above date until November, 1885, the nitro-glycerine was continuously taken in the above doses, and during this period the patient was entirely free from attacks of dyspnœa and all other uræmic symptoms. The urine continued to be of low specific gravity, and to contain a small amount of albumen, hyaline and granular casts.

In November the patient paid a visit to a neighboring city. The nitro-glycerine was discontinued, contrary to my directions, a rich diet was indulged in, with little or no out-door exercise. On her return home I was hastily summoned to find the patient hemiplegic, with a pulse of great tension, severe headache, and distressing dyspnœa. The urine contained a large amount of albumen. Nitro-glycerine was again given in $\frac{1}{100}$ gr. doses, every two hours, and later every hour, ten to fifteen times daily. The headache and dyspnœa were quickly relieved, coincidently with a marked lowering of arterial tension. The patient was not purged, a daily dose of the cascara sagrada alone being given to procure a movement from the bowels. The amount of albumen in the urine rapidly diminished, attaining in a few days its former level. There has been no recurrence of uræmic symptoms. The nitro-glycerine has been given continuously; at present $\frac{1}{100}$ gr. is taken eight to ten times daily. Beyond an occasional dose of chloral hydrate to procure sleep, and iron, no other drug has been used. The striking relief of the acute symptoms, which had been present on so many occasions during a period of two years, the improvement in the patient's general condition, with the systematic use of nitro-glycerine, can only be fully appreciated by the physician in constant attendance. The result has been to convince me that in this case life has been made much more comfortable and has been prolonged by its use.

CASE IV.—H. L——, aged twenty-two. Family history without gouty taint. The patient had scarlet fever when five years old, and diphtheria at thirteen years, without known renal complication. The patient has never had any venereal disease. Good health was enjoyed until January, 1885, when he suffered from an attack of cystitis. He was under the care of my friend Dr. Robert Weir, from the latter part of March. The cystitis did not wholly disappear until May. In February a large amount of albumen was discovered in the urine, with numerous hyaline casts. During the summer and autumn the patient enjoyed fair health. He was free from headache, disturbances of digestion, etc., and complained only of becoming easily fatigued after very moderate physical exercise and mental application. I was first consulted by him, at Dr. Weir's request, on October 15th. He was then slightly anæmic, but complained only of the above symptoms. On examination there was an absence of physical signs of cardiac hypertrophy beyond a slightly increased impulse. There was no appreciable thickening of the radials. The pulse was persistent, and the sphygmograph showed increased arterial tention. The urine contained a large amount of albumen and hyaline casts; specific gravity, 1.020. Specimens of urine passed at different times in the day were examined; all contained a large amount of albumen.

Date.	Daily quantity of urine.[1]	Percentage of albumen.	Total amount of albumen.	Treatment.
	Ounces.		Gms.	
October 20	41¼	0.264	3.28	Without medication.
" 21	42½	0.313	3.99	
" 22	45½	0.376	4.79	
" 23	56½	0.250	4.24	Nitro-glycerine $\frac{1}{100}$ gr., from mid-day 22d, t.i.d.
" 24	44½	0.310	4.13	
" 25	31	0.404	3.64	
" 26	34	0.270	2.75	Nitro-glycerine $\frac{1}{100}$ gr., four times a day, from mid-day 24th.
" 27	30¼	0.310	2.82	
" 28	42½	0.204	2.62	
" 29	36	0.232	2.50	Nitro-glycerine $\frac{1}{100}$ gr., every three hours, from mid-day 26th.
" 30	54	0.164	2.65	
" 31	52	0.146	2.27	
November 1	50	0.184	2.76	Nitro-glycerine discontinued from mid-day November 2d.
" 2	48	0.204	2.93	
" 3	49	0.180	2.64	
" 4	43	0.330	4.25	
" 5	40	0.290	3.48	
" 6	46	0.212	2.95	
" 7	35	0.334	3.50	

A careful regulation of the patient's daily life was advised, and residence in a warm climate during the winter months.

[1] Urine estimated from 8 A.M. to 8 A.M.

[1] Mrs. A—— is unable to take more than $\frac{1}{100}$ grain of nitro-glycerine without suffering from a feeling of fulness in the head and headache; a tolerance of larger doses has not been established by prolonged use.

[2] It should be mentioned that the attacks of palpitation consist apparently in increased force of the heart's contractions, without increased frequency.

Previous to his departure I was able to observe the effect of nitro-glycerine upon the daily excretion of urine and albumen. The daily amount of fluids taken was carefully measured, and varied only within two to three ounces. The patient, throughout the period that the observations were made, was leading his usual life, taking a moderate amount of out-door exercise. The estimation of albumen excreted daily (per centage and actual amount) were kindly made by Mr. Adolph Tsheppe, whose careful work is a guarantee of their accuracy.

The foregoing table reoords the results of this investigation.

They may be summarized as follows :

1. The daily loss of albumen without medication was sufficiently large, presumably, to interfere with the proper nutrition of the tissues.

2. From the date of the administration of nitro-glycerine the total daily amount of albumen excreted diminished markedly and almost continuously; with increasing doses the percentage amount was similarly reduced.

3. The *immediate* effect of the discontinuance of nitro-glycerine, apparently, was to produce a marked increase in both the percentage and total daily amount of albumen excreted.

4. The effect upon the diurnal excretion of urine was to increase it moderately.

(It should be stated that on the 24th, 25th, and 26th the patient took more than his customary physical exercise, indulging in lawn tennis, and sweating profusely.)

Korkunoff[1] (St. Petersburg) has lately shown that the excretion of albumen in chronic nephritis, in individuals placed under as nearly as possible identical conditions, varies considerably from day to day, both under rest and exercise, and that this variation would seem to depend upon several factors, such as the quality and amount of sleep, upon the mental condition, etc. The above observations illustrate this point, but at the same time clearly show that the variation was slighter and less irregular during the use of nitro-glycerine than on the days when no medication was employed.

Case V.—E. R——, aged forty-five, painter by trade. Admitted to St. Luke's Hospital, January 23, 1886. Has always been a free drinker. Considered himself well until a year ago, when he suffered from a severe attack of dyspnœa at night while in bed. Similar attacks of temporary duration frequently recurred, and finally incapacitated him for work. He has occasionally suffered from a temporary dimness of vision. During the past year he has been obliged to get up at night to pass water. He has had a troublesome cough for the past few weeks. On physical examination the heart's apex beat was found in the sixth space, three-quarters of an inch outside of the mammillary line; there was marked accentuation of the aortic second sound, increased arterial tension evident to the finger, and confirmed by sphygmographic tracings, thickened radials, thickened and tortuous temporals. There was no œdema of the lower extremities, but a slight puffiness about the eyes. Subcrepitant râles were heard over the whole of the chest, in front and behind. Examination of the other organs was negative. The urine contained a rather large amount of albumen and casts—specific gravity, 1.012. Ophthalmoscopic examination showed retinitis albuminurica. The patient was markedly anæmic. There was more or less continuous dyspnœa, with paroxysmal exacerbations. The bowels were regular. Temperature normal.

From February 2d until the evening of the 7th no medicine of any kind was given. His condition remained the same as on admission. The daily quantity of urine has been very carefully measured from February 2d until the present date, February 18th, and daily estimations of the percentage and total amount of urinary albumen excreted have been made by Mr. Tsheppe. On the evening of February 7th nitro-glycerine was ordered in $\frac{1}{100}$ gr. doses, every three hours, during the twenty-four.

February 8th.—No subjective symptoms have been caused by the nitro-glycerine. There is marked improvement in the dyspnœa.

February 9th.—The patient's dyspnœa has improved still further. There is an absence of râles over the chest anteriorly; they are still present posteriorly. Ordered nitro-glycerine $\frac{1}{80}$ gr., every three hours, for eight doses daily.

February 15th.—No subjective symptoms have been caused by the nitro-glycerine, but the arterial pressure has markedly diminished. The patient has been *completely* relieved of his asthma since the 10th; says he feels better than for many months. There is still some crepitation at the bases of both lungs posteriorly.

The following tabulated report shows the daily quantity of urine passed since February 2d, with the estimations of the daily excretion of albumen :

Date.	"Daily" quantity of urine.[1]	Percentage of albumen.	Total amount of albumen.	Treatment.
	Ounces.		Gms.	
February 3– 4...	42	0.124	1.562	
" 4– 5...	50	0.098	1.470	No treatment from
" 5– 6...	26	0.056	0.436	3d to 7th.
" 6– 7...	48	.....	.....	
" 7– 8...	63	0.022	0.415	At 4 P.M., 7th inst.,
" 8– 9...	66	0.018	0.356	ordered nitro-glycerine
" 9–10...	65	0.020	0.390	$\frac{1}{100}$ gr., every three
" 10–11. .	62	0.018	0.373	hours, during the
" 11–12...	63	0.026	0.491	twenty-four.
" 12–13...	58	0.038	0.661	On 9th inst. nitro-
" 13–14...	79	0.034	0.806	glycerine $\frac{1}{80}$ gr., every
" 14–15...	66	0.046	0.911	three hours, during the
" 15–16...	64	0.060	1.152	twenty-four.
" 16–17...	64	0.060	1.152	Without treatment
" 17–18...	70	0.068	1.428	from 4 P.M., 14th inst.

In this case the amount of albumen excreted daily was very small. It will be seen that both the percentage and total amount of albumen was already diminishing before the administration of nitro-glycerine, and this fact, in connection with the variations in these respects which obtain from day to day in cases of chronic nephritis, militates against a correct judgment of the effect of the drug upon the albumen excretion.

It is possible that its discontinuance may have been the cause of the immediate subsequent increase of albumen (percentage and total amount). The investigation is particularly valuable in showing the immediate and marked increase in the diurnal quantity of urine following the use of nitro-glycerine, an increase which was maintained after its discontinuance.[2]

Exact investigations of the influence of nitro-glycerine upon the daily excretion of urine and serum albumen in chronic nephritis are not yet sufficiently numerous to justify positive conclusions on these points. The daily variation in both, in individuals suffering from this disease, placed under as nearly as possible identical conditions and without medication, are very considerable in my experience, and are an embarrassing element in all investigations of this kind.

If the above results are corroborated by further observations, the interesting phenomenon is presented of an *increase* in the diurnal amount of urine, and a *decrease* in the urinary albumen, during the use of a drug which very markedly *lowers* the general blood-pressure.

I would add a few suggestions before concluding, in regard to the method of administration of nitro-glycerine, which I have found most efficient in cases of chronic nephritis.

The strength of the single dose should be just *within the limit* of producing any subjective symptoms. It can only be determined in the individual case by careful trial. This dose, in the absence of acute symptoms, should be

[1] The Medical Record, January 30, 1886, p. 126.

[1] Urine estimated from 4 P.M. to 4 P.M.

[2] This observation harmonizes with Burzhinski's.

given four to six times daily, at equal intervals, and over a prolonged period. It is well, from time to time, to increase the strength of the single dose sufficiently to produce slight subjective symptoms, in order to ascertain whether an increased tolerance of the drug has been established by its prolonged use. On the occurrence of acute symptoms during its systematic use, it should be given more frequently in accordance with the rules already given.

I have never seen any disagreeable symptoms produced by the prolonged use of nitro-glycerine; my experience in this respect corresponds with that of Dr. Murrell,[1] who has given it daily, often in very large doses, and during a period of several years, in cases of angina pectoris.

The increased frequency of the pulse which usually follows its use is of very temporary duration.

I have occasionally observed a decided *decrease* in the pulse-rate, with diminution in arterial tension, follow its administration in critical uræmic conditions.

My investigations, so far as they have been carried, permit of the following summarization:

1. That in nitro-glycerine, given in small doses and frequently repeated, we possess a powerful agent for lowering the increased blood-pressure which is very constantly associated with the development of uræmic symptoms.

2. That it has the power to control or relieve many of the paroxysmal disturbances of the nervous system which are included under the general term of uræmia; of these headache and asthma are especially benefited by its use, the relief being more marked and continuous than that obtainable either by opium or chloral.

3. That its influence upon the daily excretion of urine and serum albumin in parenchymatous and interstitial nephritis is apparently to increase the former and diminish the latter.

4. That in the systematic and prolonged use of nitro-glycerine, in appropriate doses, in chronic nephritis, we possess a means of maintaining more or less continuously a lowered blood-pressure, of often averting or relieving critical conditions, and thereby prolonging life.

THE USE OF BROMIDE OF ARSENIC IN SKIN DISEASES.[2]

By WILLIAM THOMAS CORBETT, M.D., L.R.C.P. Lond.,

PROFESSOR OF DISEASES OF THE SKIN IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF WOOSTER, CLEVELAND, O.

Having almost unconsciously drifted into some of the journals[3] in connection with the use of the bromide of arsenic in certain diseases of the skin, it may be of sufficient interest to give more in detail my limited experience with the drug.

In the first place, it is of prime import that we have a definite idea as to what we are giving when we prescribe the arsenious bromide. It is formed from the two elements in the presence of carbon disulphide; it is colorless, crystalline, and of a peculiar garlic odor. It is deliquescent and on contact with water is instantly decomposed, arsenious acid ($As_2 O_3$), or white arsenic, and hydrobromic acid (H. Br.) being formed; therefore the arsenious bromide, as found in the shops, is incompatible with water, be it ever so little, and dangerous as a medicament.

A solution of bromide of arsenic introduced many years ago by Dr. Clemens, of Frankfort-on-the-Main, the formula of which is published in the "National Dispensatory," contains one part each of arsenious acid and pure potassium carbonate dissolved in ten parts of boiling water, to which eighty parts of water is added and two parts of bromine. After this liquid has become colorless by standing, sufficient water is added to make one hundred parts, which makes it of the same arsenical strength as Fowler's solution. But this solution, according to trustworthy authority, consists of bromide and arseniate of potassium. Mr. Hoppe informs me that "in Clemens' solution the bromide of arsenic cannot exist as bromide of arsenic, it being decomposed by contact with water." The solution of this question, however, belongs to the domain of the chemist; let me say a few words as to the therapeutic effect. Clemens' solution was first given to the profession in 1860 (*Gazette des Hôpitaux*, No. 11).

Later, in 1875 ("Ziemssen's Cyclopædia"), Dr. Hertz recommended it in chronic malarial poisoning; he adduced in its favor that it could be taken a long time without producing unpleasant symptoms. From its supposed chemical status it is quite probable that it might.

The only real solution of arsenious bromide which I have met with is the alcoholic solution recommended by Dr. H. G. Piffard.[1] He directs that one part of arsenious bromide be dissolved in one hundred parts of alcohol, of which one to two minims may be given in a wineglass of water after meals. Of late I have used the following formula prepared for me by Mr. Louis Hoppe, to whom I am indebted for some valuable and timely suggestions relative to the drug:

℞. Arsenici bromidi (Mercks)..... gr. j.
Alcoholis..... ʒ ij.
Solve et adde
Elix. simplicis..... ℥ viij.

M. Sig.—A teaspoonful to be taken in water after meals, gradually increased.

The bromide of arsenic was first employed in the treatment of cutaneous diseases by Dr. H. G. Piffard, who, in 1881,[2] spoke favorably of its use in acne; since then little has been said of it. My first experience with the arsenious bromide—or what I thought to be arsenious bromide—was in a rather obscure case of psoriasis[3] which I saw through the courtesy of Dr. Z. T. Dellenbaugh. The patient was taking Clemens' solution in two minim doses after meals, to which chrysarobin (grs. xv. to vaseline ʒ j.) was suggested as an external measure, whereupon the eruption cleared up and to my knowledge has not returned since. The favorable termination of this case in about eight weeks, after it had resisted able treatment other than the combined use of Clemens' solution and chrysarobin, induced me for a time to follow this method in all cases of psoriasis. To determine the relative value of the two drugs, in September, 1884, four cases were treated with the internal use of Clemens' solution, gradually increasing the dose to six minims, and four other cases with the inunction of chrysarobin. It did not take long, however, to settle the point as to their relative value; of the first series some improved slowly, others not at all, and the result was unsatisfactory; whereas the second series, or those using the chrysarobin inunction, improved as readily as the cases previously treated with the internal and external methods combined. Since then I have used the formula herein given, but with what success I am not prepared at present to say. My impression is that psoriasis treated with the alcoholic solution of arsenious bromide is less liable to return than it is when treated solely by external means—but of this later.

In acne vulgaris marked improvement has followed its use in my hands, but only in cases of reflex origin, as I take it, from undue irritation of the reproductive organs in neurosthenic persons. A marked case of this kind was reported in the *Columbus Medical Journal* of October, 1883, in which acne appeared in a female aged twenty, at the time of her becoming a *fille de maison de joie*; this patient returned to the Dispensary for Skin

[1] Loc. cit.
[2] Read before the Cuyahoga County Medical Society, February 5, 1886.
[3] Jour. Cut. and Ven. Diseases, New York, July, 1884, and August, 1885. Albany Med. Annals, October, 1885.

[1] Jour. Cut. and Ven. Diseases, New York, March, 1884.
[2] Mat. Med. and Ther. of the Skin, Wood's Lib.
[3] Jour. Cut. and Ven. Diseases, July, 1884, with lith.

Diseases from time to time, but treatment proved unavailing until, September, 1885, she was given arsenious bromide, gr. $\frac{1}{60}$ increased to gr. $\frac{1}{40}$, when she made a speedy recovery. For a time there was a tendency for the disease to return at each menstruation, but this yielded to the increased dose last given.

In another case of a like nature, in a male aged nineteen, who contracted gonorrhœa, the history shows the following points of interest: The active discharge from the urethra subsided into what the patient termed the "gleet," accompanied by a copious eruption of flesh-worms" on the forehead. I saw him for the first time in August, 1885, at which time the urethral discharge had disappeared, but the acne, in spite of treatment, was persistent. The patient thought a vestige of the "gleet" still remained, as the lips of the meatus were sometimes adherent of a morning. A No. 24 French sound passed into the bladder readily and without pain, although the entire tract was hyperæsthetic, whereupon I assured him he had nothing to fear from gleet.

He was directed to keep the forehead clear of comedones by squeezing them out daily, and to apply the following lotion at night:

℞. Hydrargyri chlor. corrosivi..... gr. iij.
Glycerini..... ʒ iv.
Tinct. benzoini..... ʒ iv.
Aquam rosam adde ..... ℥ vj.
M.

This he followed faithfully for six weeks, and returned worse than before; he was then put on the arsenious bromide, gr. $\frac{1}{70}$, as an additional measure, and directed to continue externally as before; a fortnight afterward the acne began to improve; a week later it was found necessary to increase the dose, which was gradually increased to gr. $\frac{1}{60}$, and finally to gr. $\frac{1}{40}$, before recovery was complete. The treatment produced no marked gastric disturbance at any time, and the patient said he had never felt better. Time of treatment with the arsenious bromide, nine weeks. There has been no return of the disease since. In pruritus hiemalis, or winter-prurigo, the drug seems to be of equal, if not greater, service. The treatment of this affection, which is so common along the chain of lakes, has given medical men more annoyance and less reputation than almost any other affection. External treatment may relieve for the time, but the average patient, according to my experience, objects to spend much time frescoing his legs when the objective symptoms are so slight; besides, the paroxysms in the more severe cases come on during sleep, when the finger-nails are applied unconsciously. For two or three winters preceding the present a number of cases under observation have taken the potassium bromide with but partial success, because it was found extremely difficult to get them sufficiently under its influence for a malady that gave annoyance only once or twice within the twenty-four hours. Less inconvenience and better results were noted to follow the use of hydrobromic acid, yet here again the full therapeutic effect was objectionable.

Theoretically, in October last, the bromide of arsenic was given two patients who had yearly, upon the first approach of frost, suffered from pruritus; the treatment was begun several weeks before the usual advent of the disease, beginning with gr. $\frac{1}{60}$ after meals; as the weather grew cooler the dose was increased to gr. $\frac{1}{60}$, which had been maintained in one case to within a fortnight of the present writing, the patient remaining entirely free from the pruritus. In the other two or three slight attacks have followed prolonged exposure to cold, but these were allayed by the local use of liquor carbonis detergens (℥ ss. to ℥ iv.), which had previously been used without benefit.

In two other cases in which treatment was applied for after the discomfiture had become sufficiently severe to prevent sleep, it was found necessary, in addition to the arsenious bromide, to employ a solution of caustic potash (gr. x.–xx. to ℥ j.) externally to give immediate relief.

In brief, I have endeavored to outline a few instances in which the use of bromide of arsenic has, to all appearances, fulfilled what other drugs have repeatedly failed to accomplish; at the same time I am well aware that impressions rather than opinions are justifiable from the meagre data at my disposal. In the *neuroses cutaneæ*, which American physicians are destined to encounter more, and to more fully appreciate, there is a dearth of drugs to meet certain indications which are brought to light by the unravellings of clinical and pathological research; in this direction it seems to me the one under observation will find its proper scope.

SIMPLE DISLOCATION OF THE FIBULA.

By JAMES H. PARKINSON, M.D.,

SACRAMENTO, CAL.

The following case, which occurred in the practice of Dr. W. A. Briggs, of this city, is apparently unique:

T. P——, aged twenty-four, robust and well developed, in wrestling with a companion fell with the right foot adducted and resting upon its outer aspect, the knee being adducted and slightly flexed, his antagonist falling on the limb. A loud snap was clearly audible; on rising he found it impossible to walk; severe pain was felt in region of knee, and a "lump" noticed on the superior tibio-fibular articulation. When seen within half an hour after the accident no swelling had taken place. The head of the fibula was found to have been dislocated backward; the tumor formed by the displaced bone was plainly defined. The external lateral ligament of the knee-joint was intact, and could be felt tensely stretched from bone to bone. No movement was detected, the fibula being firmly fixed in the abnormal position. Reduction was attempted by pressure on the head of the bone from behind forward, with the limb in the flexed and semi-flexed position, aided by rotation of the foot inward; also by flexing and suddenly extending the limb, but without any apparent effect. The pressure necessary being unbearable, ether was administered, and attempts at reduction were renewed without success; finally the leg was flexed on the thigh until the heel touched the posterior surface. Firm pressure, in the manner already described, was again made, and it was thought that the bone could be felt moving. While this was being maintained pressure was applied to the head of the bone directly inward, when it slipped in with the characteristic snap.

Luxation of the head of the fibula is very uncommon, and but few cases are recorded.

Fergusson (American edition, p. 288) deems the accident to be "so rare, and in all likelihood accompanied with fracture," as not to require separate comment. "This is a rare accident, due, according to Bryant, to violent adduction of the foot and abduction of the knee, and is reduced by firm pressure over the head of the bone" ("The International Encyclopædia of Surgery," vol. iii., p. 705).

Bryant (2d edition, vol. ii., p. 347) mentions having only seen three cases, and from the absence of any directions as to reduction, evidently met with no difficulty.

Erichsen (7th edition, vol. i., p. 512) as occasionally, though very rarely, met with, Boyer and Sanson having each recorded one. In his own case the injury had not been seen till some time after the accident, when "the tension of the tendon of the outer hamstring effectually prevented any attempts at reduction.

Gant has seen one instance of displacement forward, and refers to three cases described by Malgaigne.

Hamilton (3d edition, p. 714) mentions three cases only; one by Sanson, one by Debreuil, and one by Richardson.

Holmes ("System of Surgery," 2d edition, vol. ii., p. 917) says that the accident is occasionally met with.

Gross (vol. i., p. 1132) states that there are few examples on record, and cites Boyer's case.

Cooper (p. 199) had two cases, in both of which reduction was easy.

The foregoing summary shows the lesion to be very infrequent, rarely occurring in its simple form, but most usually as a complication of some graver injury.

This case is remarkable for the extreme difficulty presented in reduction. The principal opposing force appeared to be the external lateral ligament, which bound the head of the bone down to the surface of the tibia. This seems evident from the fact that the only procedure by which it was possible to relax it ultimately reduced the displacement.

Clinical Department.

INTRA-UTERINE ASCITES.

Dr. W. F. Morgan, writes: "The case of 'ascites developed in utero' reported in The Medical Record of March 13th, recalls one which happened in my own practice about eighteen years ago. The mother was colored, and a primipara; labor was tedious, and the fœtal heart-sounds were absent. After the head and shoulders were born, a delay occurred which caused me much perplexity until the cause was ascertained. The fœtus had apparently been dead for some days. Dr. Samuel Phillips tells me that he has met with one case of fœtal ascites in a practice of thirty years. The child was of enormous size, was hydrocepalic, and was still-born The cord was nearly as large as the wrist. The mother was colored."

PERMANGANATE OF POTASSA — AMENORRHŒA.

Dr. Lee O. Rodgers, of San Francisco, reports the following case in corroboration of the article of Dr. Billington in The Medical Record of March 6th: "Miss F—, aged nineteen, was sent to me for advice, and gave the following history: She leads an active life when at home, spending much time in the open air. In July, 1884, she came to a town adjacent to this city on a visit to friends. She began shortly after to grow 'stout,' her abdomen particularly becoming prominent. Her menses disappeared entirely after the period in July, previous to which she had always been perfectly regular. In March, 1885, she was sent to me by her hostess, who thought her pregnant, for the purpose of being kept in the city and confined. The girl seemed to be remarkably healthy and was very 'fat,' and she proved, upon physical examination, to be a virgin. I immediately put her upon potassium permanganate, a two-grain compressed tablet, four times a day, each tablet to be followed immediately by a large gobletful of water. Much nausea and some vomiting occurred during the administration of the medicine, but I attributed this to the fact that I gave the tablets on an empty stomach, as I accepted Bartholow's theory of the action of the drug. On the fourth day of the administration of the permanganate the menses appeared and lasted four days, after which the patient was sent to her home. She was instructed to inform me if her menses failed to appear on time after her return home, but I have not heard from her."

COLD WATER COMPRESSES IN SPASMODIC CROUP.

Dr. J. T. Jelks, of Hot Springs, Ark., writes: "In your issue of February 27th appears an extract from the *Therapeutic Gazette* concerning the efficacy of cold water compresses in affections of the respiratory tract. The cold water compress in spasmodic croup is one of my earliest recollections, my brothers and myself having been sufferers from this distressing disease, and I many times witnessed and felt the speedy relief afforded by cold water. In a practice of fifteen years I have never given a dose of medicine of any sort for the relief of spasmodic croup, and claim that there is no necessity for giving alum, turpeth mineral, aconite, or, indeed, any remedy whatever. A napkin or handkerchief is wet in cold water and wrapped about the throat, and over this is applied a dry towel. In ten or fifteen minutes the child will be breathing easily and will probably be asleep. This seems to be an exceedingly simple thing to do when the family and patient are in such distress, but it has always been successful in my hands."

A CASE OF OVARIOTOMY WITH SOME PECULIAR FEATURES.

Dr. A. R. Smart, of Hudson, Mich., reports the following case: "The patient, aged twenty-six, had noticed a gradual enlargement of the abdomen for three years, and it was now the size of that of a woman at full term. There was moderate emaciation and the patient presented the cachectic appearance commonly associated with well-developed ovarian cysts, but was otherwise apparently in fair health. A diagnosis was made of unilocular cyst of the right ovary, and an operation was determined upon. Upon incision the peritoneum was found closely adherent to the tumor, and even after the opening was prolonged above the umbilicus, no line of separation could be found between the tumor and the abdominal wall. The cyst was not tapped, but was drawn out, being stripped from the adherent peritoneum during the process. A separation was thus gradually effected between the tumor and the abdominal wall, arch of the colon, and portions of omentum, several vessels and vascular bands requiring ligature, until the deeper attachments were reached. It was now found that the cyst-wall was firmly adherent to the brim of the pelvis, to the posterior surface of the uterus and to a small portion of the bladder. The adhesions to the uterus were carefully broken, when the patient was seen to be suffering from shock, and it was deemed best to abandon further efforts in this direction. The contents of the cyst were removed as carefully as possible and the wall brought out at the lower angle of the wound and secured by two sutures passing deeply through the abominal parietes. The cyst was then cut away leaving a portion, the size of the thumb, protruding half an inch above the surface of the abdomen. The carbolized silk-ligatures within the abdomen were cut short, and the cavity was cleansed, as well as possible, of clots, and some sero-purulent fluid which had escaped from the cyst through a rupture in its wall. The wound was closed by sutures including the peritoneum, a drainage-tube was passed deep into the pelvis, and an antiseptic dressing applied. The operation lasted one hour and a half. The patient recovered soon from the symptoms of shock. At the end of four hours about four ounces of bloody serum were withdrawn through the drainage-tube, and this was continued for six days, the quantity continually lessening. Injections were made into the abdominal cavity every day until the discharge ceased. The drainage-tube was removed on the seventh day. The stump ceased to discharge on the eighth day when it had sunk a little below the surface of the abdomen. The temperature rose only once to 103°, and the patient progressed steadily to complete recovery. No spray was employed, but the strictest antiseptic precautions were used." Dr. Smart writes: "This case is of value in its bearings upon the most desirable disposition of portions of the cyst which, for any reason, it is thought best not to remove. After completing the operation my mind was troubled about the outcome of the cyst-stump, and I regretted that I had not placed a drainage-tube in it so that I might have irrigated its cavity, but the result proved the uselessness of such procedure."

Progress of Medical Science.

A Result of Extension in the Treatment of Fracture of the Thigh.—Dr. Fischer reports a case of fracture of the thigh in a child six years of age, which was treated by extension with weight and pulley. A cure was obtained in four weeks, but it was then found that the ligaments of the knee had been so stretched that the ends of the tibia and femur slid over each other with an audible sound, and hyper-extension occurred when an attempt was made to stand. The trouble was relieved by retention for a month in a silicate of soda splint. The cord passed over two pulleys and a weight of eleven pounds was used. Dr. Schmidt, in referring to this case, reports a similar instance of over-stretching of the knee in an old woman, with fracture of the femur just above the condyles. In both cases the trouble was due to the continuous traction maintained by plasters attached only to the leg and pulling through the knee-joint.—*Centralblatt für Chirurgie*, January 23, 1886.

Epidemic Hemeralopia.—Night-blindness is a symptom met with in many affections of the fundus of the eye, and especially in pigmentary retinitis; but it is also met with as an epidemic condition especially among soldiers. M. Laveran relates that an epidemic of this sort, occurring at Besançon in the spring of 1855, was so severe that it was found necessary to send out parties every day at sunset to lead back to the barracks those who had been overtaken by nightfall and were unable to find their way. The disease never affects officers or those subalterns who enjoy a relative degree of comfort, such as the musicians, but attacks chiefly the common soldiers. It has been supposed that hemeralopia was due to the effect of bright sunlight, or of the reflection from snow or sand; others have attributed it to the sudden lowering of temperature at sundown, and others again have regarded the symptom as an expression of latent scurvy. It has recently been asserted that night-blindness was caused by fatigue of the retina, but this does not account for the fact that certain classes only are attacked, and that others who make no less use of their eyes are exempt. M. Laveran classes it among the diseases of alimentation, and thinks it is caused by a deficient supply of animal and fatty foods. Dr. Eugène Martel, in an article of which this is an abstract, published in the *Revue Internationale des Sciences Médicales* of January 31, 1886, says that he has never found any constant changes on ophthalmoscopical examination; there may be a serous infiltration of the retina, a spasmodic contraction of the arteries, venous congestion, etc., but no lesions of such frequent occurrence as to deserve special mention. Weber has noted dilatation of the pupil and epiphora, and the connection of these symptoms with night-blindness seems to be a pretty constant one. Dr. Martel's theory is that epidemic hemeralopia is simply the first stage of sleep, in which the sight is dimmed and the eyelids fall. He says that the affection is observed only in soldiers who are obliged to undergo considerable fatigue, are exposed to the cold, and who receive an insufficient amount of flesh meat in their rations. He relates the case of a man who had attacks of apparent blindness, occurring during the day as well as at night. He could discover nothing abnormal in the fundus of the eye, but, meeting his patient one day in the street, noticed that his eyes were half closed; he could raise the lids perfectly, but did so with a certain effort. Appropriate treatment effected a speedy cure. The results of treatment in hemeralopia also lend some weight to this theory. Cod-liver oil, strychnine, and rest are found sufficient to effect a cure in most cases. The oil removes the condition of inanition, strychnine is a general tonic and muscular excitant, while with rest the patient gets a sufficient amount of sleep and is not troubled with the first unconscious stage of this process as night falls. In a recent number of *Vratch*, Dr. Rousanoff states that all the inhabitants of a little village of Southern Russia, built upon marshy ground, suffer every spring from hemeralopia. As soon as they notice the symptom they begin to take cod-liver oil, and the night vision is usually restored in two or three days. Of all the inhabitants of the village treated in this way, for five years in succession, only two have been found who were not cured by the oil.

Diagnosis of the Sex of the Fœtus from the Number of Cardiac Pulsations.—Dr. Juan Bidart asserts that a certain relation exists between the sex of the fœtus in utero and the rapidity of action of the heart, by which it is possible to determine almost with certainty whether the infant be male or female. When the pulsations are below 135 to the minute the child is a boy, and when from 135 to 145 it is a girl. In one hundred cases in which he made observations on this point, he foretold the sex correctly ninety-two times.—*Deutsche Medicinal-Zeitung*, January 21, 1886.

Joint-Inflammation Occurring with Purulent Ophthalmia.—Dr. Lucas reports the case of a child, eighteen days old, who suffered at the same time from purulent ophthalmia and inflammation of the left knee and wrist. The mother had had a purulent discharge from the vagina for some days before the birth of the child, and the affection of the eye was undoubtedly the result of direct infection. M. Debierre reports a similar case of a child suffering from severe suppurative inflammation of both eyes. On the twelfth day of the disease the child was seized, without the occurrence of any traumatism, with severe pain and swelling of the left elbow. The inflammation developed like gonorrhœal rheumatism and subsided slowly after about three weeks. These joint affections were most probably attributable to the purulent inflammation of the conjunctiva, and, like gonorrhœal rheumatism itself, should be regarded as infectious in their nature.—*Journal de Médecine et de Chirurgie Pratiques*, January, 1886.

Aphonia Caused by Morphine.—Dr. Trevelot reports the following case in the *Journal de Médecine et de Chirurgie Pratiques* for March, 1886. Being called to see a young man, nineteen years of age, suffering from delirium tremens, he gave him morphine in doses of from one-fourth to one-third grain hypodermically. The attacks were speedily relieved, but each injection was followed by complete aphonia. The patient moved his lips, but could not enunciate at all, and the voice returned only after the expiration of twenty to thirty minutes. The same phenomenon was observed during a second attack when morphine was made use of; but in a third seizure, when the drug was not employed, aphonia did not supervene.

Malignant Tumors of the Fauces.—The following are the conclusions of M. A. Castex, in an article on this subject in the *Revue de Chirurgie* for January and February, 1886: Malignant tumors of the fauces are most frequently epitheliomatous in nature. They usually originate in the tonsil. They appear generally in later adult life, but it is not possible to attribute their occurrence especially to the use of tobacco. The most marked functional symptoms are pain in the ear, ptyalism, and difficulty and pain in deglutition. Among the objective characteristics may be noted the tendency of the ulceration to spread on the surface rather than to increase in depth, the grayish and pulpy mass which covers the ulcer, the peculiar shapes (sometimes as if flattened out, and sometimes in disseminated islets) which the neoplasm assumes, occasionally anæsthesia of the pharynx, and enlargement of the glands at the angle of the jaw. The general symptoms are relatively late in manifesting themselves. The progress of the disease presents frequent remissions, and the neoplasm spreads usually along the pillars of the fauces, and then over the veil of the palate. Certain epitheliomata of the pharynx have a boring tendency, and perforate the base of the skull. Adenomata of the velum, at first encapsulated, may rupture their en-

velope and take the course of sarcomata. Secondary adenopathy is often slow to appear in epithelium of the pharynx. As regards diagnosis, any unilateral hypertrophy of the tonsil in those advanced in age should be regarded with suspicion. It is sometimes difficult to decide between cancer and the tonsillar manifestations of syphilis in any of its stages, especially chancre of the tonsil. The diagnosis between malignant disease and the tuberculous and scrofulous lesions of the fauces is more easily made. As regards surgical interference, M. Castex formulates the following rules: 1. When the neoplasm is circumscribed and the neighboring glands are not involved, an operation should be performed; 2, intervention will also do good rather than harm when, although the disease is extensive and the glands are affected, the tumor is nevertheless circumscribed and movable; 3, when this degree is exceeded an operation can be but palliative in its result, and is justifiable only when the pain is excessive or other imperative indications are present. Access may be gained to the seat of disease either through the natural openings or by incision from without, but in either case free drainage to the exterior should be provided for. As a rule, M. Castex concludes, if the operation be performed early and the entire neoplasm be removed, a considerable period of comfort and freedom from the disease will be obtained, but it is very important to intervene at as early a period as possible. The operation itself is not wholly free from the dangers of hemorrhage, secondary pneumonia, and septic infection.

INCONTINENCE OF URINE CAUSED BY NASAL STENOSIS.—Dr. Ziem confirms the statement made by Dr. Major, of Canada, that nocturnal incontinence of urine occurs very frequently in children who are forced to breathe through the mouth by reason of some nasal obstruction. He rests his assertion upon some cases recently observed by him, and he regards it as very probable that the infirmity might be cured by the re-establishment of the normal mode of respiration. The author endeavors to explain the relation existing between buccal respiration and nocturnal incontinence of urine by regarding the latter as due to insufficient hematosis and a consequent accumulation of carbonic acid in the blood.—*Journal de Médecine de Paris*, February 21, 1886.

OIL OF SANTAL IN URINARY AFFECTIONS.—Dr. A. P. Gipoulou writes, in the *Journal de Médecine de Paris* of February 14, 1886, concerning the good results obtained by him from the use of the oil of yellow sandal-wood in the treatment of the various affections of the urinary organs. The results of his experiments may be tabulated as follows: 1. In chronic and obstinate gonorrhœa no especially remarkable effects were produced. 2. In acute gonorrhœa accompanied by severe vesical tenesmus, frequent and painful micturition, etc., the acute symptoms were speedily relieved, though the discharge diminished only gradually in quantity. 3. In a case of suppurative nephritis of the left kidney, in which there was frequent micturition, and the urine was loaded with pus, an improvement was noted within twenty-four hours, and at the end of a fortnight the pus had entirely disappeared from the urine. 4. A railway employé was suffering from acute cystitis, accompanied by tenesmus and bloody urine, which had resisted the action of ordinary remedies for over a month; he was relieved permanently in a few days by the use of yellow sandal-wood oil. 5. In a number of cases of vesical catarrh equally rapid and permanent results were obtained. 6. In three cases of simple acute unilateral nephritis speedy relief was afforded by the same remedy. 7. In two cases of nephritic colic excellent results followed the administration of santal oil; the attacks were promptly cut short, and an apparent cure was the result. 8. Finally, Dr. Giloupou relates a case of acute Bright's disease following scarlet fever, in which there was general anasarca and the urine was heavily loaded with albumin. During a treatment for four or five days with diuretics the œdema increased, but within two days after giving santal oil the improvement was marked, and at the end of a week the anasarca had disappeared and no more albumin could be found in the urine.

BELLADONNA AS A CORRECTIVE OF IODIDE OF POTASSIUM.—Dr. Aubert employs belladonna as a preventive of the unpleasant effects produced by iodide of potassium upon the naso-pharyngeal mucous membrane. One-half of a grain of belladonna administered with the iodide is sufficient to prevent these disagreeable symptoms. It is unnecessary to continue the belladonna for a great length of time, for in a little while the mucous membrane ceases to be sensitive to the action of the potassium salt.—*Journal de Médecine de Paris*, February 14, 1886.

ACUTE RHEUMATISM IN MOTHER AND CHILD.—Dr. Schaefer reports in the *Berliner Klinische Wochenschrift* of February 1, 1886, of a woman who gave birth to a child while she was suffering from an attack of acute articular rheumatism. Delivery was speedily accomplished, but had no apparent influence upon the course of the fever nor upon the articular affection. Five days later the infant was also seized with fever and a painful swelling in several of the joints. The course of the disease in both mother and child was a very protracted one and rebellious to the action of the usual remedies. The writer believes that the disease in the child was due to infection from the mother during intra-uterine life, and regards the case as conclusive proof of the infectious nature of acute articular rheumatism.

TREATMENT OF SCROFULOUS OZÆNA BY TURPENTINE.—Dr. G. Malacrida writes in the *Gazetta degli Ospitali* of March 7, 1886, concerning the excellent results obtained by him from local applications of oil of turpentine in scrofulous ozæna. After cleansing the nostrils with a solution of chloride of sodium and drying the mucous membrane with pledgets of absorbent cotton, he introduces a bit of cotton moistened with a few drops of the essential oil of turpentine. In a number of cases in which this method was employed the disagreeable odor was almost immediately destroyed, and a permanent cure was obtained within less than a month. The first applications having caused considerable pain and irritation, the author subsequently adopted the precaution of covering the cotton containing the turpentine with a thin, dry layer of the same material, and found the good effects in no degree lessened by this procedure.

SPONTANEOUS EVOLUTION OF A LIVING CHILD AT TERM.—Dr. E. Lvoff reports the following rare case in the *Russkaya Meditsina* of February 9, 1886. The woman, a strong, well-nourished peasant, thirty-five years of age, had given birth to six children by normal head-presentations. At the birth of the seventh child, after the bag of waters had ruptured, a hand came down. The midwife thought, however, that there was no occasion for alarm, and did not send for assistance until four hours had elapsed. When the writer was summoned, he found a transverse presentation with the left hand down in the vagina. The head lay high up on the right side, the back of the child was directed forward, and the breech was to the left and rather tightly wedged into the entrance to the true pelvis. The child was alive, and the pulsations of the heart were distinctly audible. The pains were strong and frequent. Just as Dr. Lvoff was about to introduce his hand to turn, during a severe pain, the breech slipped a little and came into the outlet, while the head passed upward. After this the labor was quickly terminated without assistance, and a living child, weighing nine pounds, was delivered. Spontaneous evolution is not very infrequent in the case of a dead or immature child, but it exceedingly rarely happens that a well-developed living child is born in this way—indeed, some writers have denied that such a termination is possible.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 17, 1886.

THE CAUSE AND PREVENTION OF DIABETIC COMA.

THE two most frequent causes of death in diabetes are phthisis and diabetic coma. In young persons, and those confined too exclusively to a meat diet, it is coma which most frequently ends the disease. This coma is sometimes uræmic, and sometimes that of a cerebral apoplexy, but in the great majority of cases it is neither, but a peculiar state characteristic of the disease. It is natural that this peculiar and fatal incident of diabetes should receive much attention, and this has been the case, especially since Petters, in 1855, and Kaulich, in 1860, noted the fact that, in many instances, the urine and breath of comatose diabetics exhaled a peculiar odor due to acetone, and since Kussmaul, in 1874, gave some solid support to the view that the coma was due to the accumulation of acetone in the blood and tissues.

Since Kussmaul's article appeared, a great many contributions have been made, some bearing out and some entirely opposed to the view of a toxic coma from acetone. Some positive evidence against the acetone theory has been furnished by Frerichs, who gave acetone in doses of gr. xx. to gr. xxx., without causing any severe symptoms. Albertoni also gave as much as an ounce and a half to a man, without producing any symptoms but that of stupor. Frerichs has said that the term acetonæmia should be expunged from pathology. He was inclined to believe, however, that the coma was a toxic one due to some products allied to acetone. Some authors have attributed diabetic coma to the presence of an excessive amount of fat in the blood (lipæmia), with resulting pulmonary embolism (Sanders and Hamilton, 1877). Fitz and Starr, who have observed the lipæmia, have not been able to attribute to it the coma.

Ebstein believed that the saccharine blood caused a necrosis of the renal epithelium, with consequent imperfect elimination of acetone, and that the kidneys are primarily at fault.

Abeles has found, in some diabetics dying of coma, a hyperglycæmia of the brain-tissue, while Scott, Donkin, Schmitz, Paget, and Dickinson, found an atrophy of the heart so great, that in some cases diabetic coma might be attributed to a weakness and failure of this organ.

With so many conflicting views and so much contradictory evidence, it might well seem difficult to come to any definite conclusions.

Still this is not perhaps impossible. It will be admitted at once, that some cases of diabetic coma are simply cases of uræmia or of cerebral apoplexy. Frerichs found that among 250 cases of diabetes, 8 died of nephritis, 10 of cerebral apoplexy, and 2 from cerebral softening. Griesinger found the kidneys diseased in 32 cases out of 64, and Dickinson in 22 cases out of 24.

Such cases, therefore, can be set aside. They may illustrate coma in diabetics, but they are not instances of the diabetic coma, which we are now discussing.

Of the remaining cases, two divisions, according to M. Lecorché (*Archives de Neurologie*), can be made. In the first class, sudden coma comes on without the evidence of acetone in the blood or excretions. The patient falls gradually or suddenly into a state of torpor and great general weakness which ends in coma. The limbs are cool, the pulse feeble, there is no evidence of asphyxia, but the face is pale or even livid. In these cases there is sometimes a hyperglycæmia with desiccation of the tissues, as shown by Abeles, but the dominant factor is cardiac failure from the atrophied and fatty heart.

In the second group of cases there is marked evidence of acetonæmia, as shown by the chloroform-like odor of the breath and urine, and by the Burgundy-red color of the latter when a few drops of perchloride of iron are added. But here the clinical symptoms are entirely different. The patient shows at first evidence of restlessness and excitement. His speech is rapid and vivacious, the pulse quick, the temperature, perhaps, somewhat elevated, and there are in general the signs shown in the first stage of alcoholic intoxication. Besides this, the patient develops gastro-intestinal and respiratory troubles. There is anorexia, vomiting, or diarrhœa, coliky pains. Dyspnœa appears later, of a somewhat peculiar character; the whole chest is deeply and rhythmically expanded, while no physical signs of trouble can be discovered in the lungs.

After the stage of nervous excitement comes stupor, and finally coma.

The cause of the symptoms in this latter group is most likely the acetone or some allied product in the blood. It was Frerichs who believed that it was antecedent decomposition products which were really the toxic agents; yet none of these other substances, such as acid ethyl diacetic, or ethyl ether, injected by Quincke and Gehrardt, seem any more poisonous than acetone, and it is not necessary to assume that a stronger poison than acetone is needed to kill the already weak and debilitated diabetic.

The testimony of most observers, therefore, still supports the view of Petters and Kaulich, that diabetic coma, occurring in the group of cases just described, is due to the presence of acetone or some closely allied body in the blood. And much of the contradiction and confusion regarding the subject is due, no doubt, to the fact that many have supposed that all cases of coma in diabetics were also cases of acetonæmia.

Some important practical points may be mentioned, in conclusion, regarding the influence of treatment upon the development of coma. Pavy and Lasègue have independently stated that severe forms of diabetes, when not treated, died of phthisis; when treated, died of coma.

While this is putting it too positively, there can be little doubt that a sudden reduction in the amount of sugar in the urine by the enforcement of a rigid meat diet may bring on coma. When diabetics have a tendency to acetonæmia, also, they should not be too rigidly restricted to a meat diet, and they should be given opium sparingly.

PRACTICALITY IN MEDICINE.

THE word "practical" has a fascinating sound. It suggests a getting at the bottom of things. But much that passes current as practical is spurious coin. A practice implies a theory, though the latter may not present upon superficial examination. In time past our teaching may have been too theoretical. But the hue and cry of the times is blinding us to the true meaning of the word "practical." In our anxiety about the superstructure, are we not getting careless about the foundation?

A well-ordered education combines both the theoretical and the practical. In our efforts to succeed, we are apt to magnify the latter element and disparage the former. This leads us to strive to reach the goal by short cuts. This spirit has affected our educational institutions. Some of them are merely huge incubators, and their progeny is feeble and dwarfed. In the cold blast of competition only the fittest survive and achieve success. Circumstances have given to this latter word a meaning which it did not possess fifty years ago. How are we to define it? It is certainly not for the great mass of men what it was formerly, so far as pecuniary reward is concerned.

We regard that man as successful in the highest sense who does his own thinking and acts out the convictions to which it leads. This is the highest type of practicality.

If a man can be rightly trained in his habits of thought he will naturally make himself practical. This training must be begun in very childhood. All of our so-called educational reforms have not been unmixed blessings. Every agency which has ever wrought for human good has had in itself the potential for working a vast amount of evil. The good has resulted from a knowledge of the limitations of each agency and its applicability to the wants of men. The liability to evil results from either an endeavor to make, or a willingness to allow, an agency to work contrary to the regular laws of expansion of mind and matter. Over-production in literature has in every profession led to a lessening of individual mental exertion. To a certain extent it has removed one great aid to practicality. A sort of intellectual parasitism has sprung up. Nothing parasitic is ever truly practical. Knowledge gained without sturdy, independent thought is never lasting. We can never employ it with certainty. It cannot be converted into practical endeavor. Functional activity alone prevents mal-assimilation. "The knowledge which we can use is the only true knowledge."

The relation of practicality to independence of thought is thus seen to be very close.

The teachers of the natural sciences in many of our higher institutions of learning complain of a lack, on the part of their students, of originality, and of that mental tone which enables them to stand alone on whatever basis of mental endowment they may profess to have. The student regards the teacher much as a man overboard regards a life-preserver—a sure means of safety. This it is, but it is not a great aid in learning how to swim. The student can throw the blame in part back upon his preparatory school and his previous instructors. Both have suffered to a certain extent from the objective effects of over-production in literature. The many new books produced are in themselves good enough. In fact they are so good, and present their subject-matter in such an attractive form that the student will not go over the premises involved. He contents himself with merely accepting the conclusions. "There can be no doubt," says a recent writer, in speaking of biological studies, "that many teachers take the very books which emphatically urge the necessity of observation and use them just as they would a grammar or history, so that the observation in this case may be said to consist in observing what is said in a certain page of a certain book." The same criticism holds true of many students, and in medical study often leads to the formation of deplorable mental habits.

What, then, is the great guide to practicality? We regard it to be the power of close observation, a studying by each man of those clinical facts which come to his own notice. Experience will eventually show their relation to other facts to which they may seem antagonistic. The cultivation of this power should begin in the earliest student days. The "how" should be regarded as of no less importance than the "what" in considering mental acquirement. He will be the most successful in the true sense who holds, with puritanical sternness, to honesty toward himself as well as toward his fellows.

THE TREATMENT OF RACHITIS BY PHOSPHORUS.

RACHITIS has usually been regarded as a disease dependent upon malnutrition, and, as such, amenable to no specific treatment, but to be managed on general principles by tonic, dietetic, and hygienic measures. Some three years ago, however, at the meeting of German Naturalists and Physicians at Friburg, Kassowitz announced that he had discovered a true specific for rickets, as far, at least, as the osseous manifestations of the disease were concerned. The softening of the bony framework, he maintained, was due to an undue vascularization of the layers of new osseous tissue, the increased activity of the circulation interfering with the normal deposit of calcareous salts. It had been shown by the investigations of Wegner that, when phosphorus in small doses was given to a growing animal, the newly formed bone was very dense, so that the cancellous tissue was as firm and compact as the shaft of the bone. Kassowitz attributed this change to an arrest of development of the young vessels supplying the parts, and he reasoned that the drug would, therefore, be of value in rickets. He accordingly experimented with phosphorus in doses of $\frac{1}{180}$ grain ($\frac{1}{3}$ milligram), and claimed to have obtained most excellent results. He reported over five hundred cases in which he tried the efficacy of phosphorus, in every one of which very marked improvement in all the symptoms followed in the course of a few weeks.

Such a glowing account of the virtues of phosphorus

naturally led others to experiment in the same direction, and since then many reports have appeared from time to time in the journals, some coinciding with those of Kassowitz, and others apparently demonstrating the worthlessness of the drug in this disease.

The question was recently the subject of an animated discussion at a meeting of the Society of Physicians in Vienna (*Centralblatt für Klinische Medicin*, January 30, 1886). It was introduced by Kassowitz, who presented a case of so-called late rickets in a girl ten years of age, in whom an almost complete cure was obtained in a little over two months. Thereupon Hryntschak presented a report of 24 cases of rachitis treated by phosphorus, of which 5 were benefited, 12 remained without change, and 7 grew worse while taking the remedy. Herz, Eisenschitz, and Genser each reported favorably on the action of the drug, having observed an improvement in the general condition, consolidation of the bones, especially those of the cranium, subsidence of abnormal sweating, and cure of laryngismus stridulus.

The principal opponent of this method of treatment was Monti. He said that he had, in certain cases, seen the fontanelles grow smaller during the administration of phosphorus, while at the same time the rachitic changes in the cranial bones were advancing. And even the craniotabes might disappear while the deformity of the thorax was increasing. He doubted very much whether phosphorus exerted any favorable influence upon the laryngeal spasm or upon the eruption of the teeth. He had never seen any improvement in the general condition follow upon the exhibition of phosphorus, except in cases which were placed under good hygienic and dietetic regulations. He was not prepared, however, despite his unsatisfactory experience, to condemn the drug, but was willing to experiment further in the hope of finally seeing more favorable results. The middle ground, and probably the safer one, was taken by Fürth, who believed that phosphorus was a remedy of great value in rachitis, but that it should not be relied upon solely, to the exclusion of measures directed to the improvement of the hygienic and dietetic conditions. He said that the remedy could be given in small doses to children for weeks and months without danger. Some exception must be taken to this statement, however, in view of the fact that Boas (*Berliner klinische Wochenschrift*, No. 25, 1885) has reported two cases of periostitis of the jaw occurring after the exhibition of phosphorus in doses of $\frac{1}{40}$ to $\frac{1}{15}$ grain per diem.

In concluding the discussion Kassowitz referred briefly to his reported cases, over twelve hundred in number, and affirmed his belief that a great revolution in the mode of treatment of rachitis would soon occur. And in order to hasten the coming of this revolution, he begged his colleagues to make a conscientious trial of phosphorus, but cautioned them against impatience; for it was only in exceptional cases that a complete cure could be obtained in a few weeks, although a marked improvement in some or all of the symptoms should be observed in that time.

As far as any judgment can be formed from the many reports that have appeared during the past two years, the weight of testimony would seem to show that phosphorus is a drug of considerable value in the treatment of this disease, though we cannot agree with its most enthusiastic advocates, who look upon it as a true specific. But it certainly ought to be combined with abundant alimentation, for Wegner's experiments have shown that in animals fed with phosphorus, but deprived of phosphates, the newly formed bone, while dense, was not hard, but was precisely like that occurring in rachitis.

DISCUSSING PROPRIETARY MEDICINES.

THE *Philadelphia Medical Times* says: "Dr. Carl Seiler, several months ago, before the Alumni Association of the College of Pharmacy of this city, and within the hall of the college, delivered a lecture upon 'Hay Fever.' . . . In impressing his points upon his audience, speaking extemporaneously, he condemned all powders, and told his audience not to use them. Among the examples which he mentioned was a proprietary article in the form of a snuff, which had been advertised in this city as a 'cure' for hay fever. The professional experience of the lecturer, and his knowledge of the nature of the disease in question, he believed, enabled him to form, and qualified him to express, a positive opinion as to the dangers of a remedy of the kind indicated when used in this highly objectionable manner.

"For this statement, made before a medical audience (for pharmacy is a branch of medicine), Dr. Seiler has been prosecuted by the owner of the nostrum, who claims exemplary damages for injury to his business."

The suit, as our contemporary, the New York *Medical Journal*, truly states, involves the question whether doctors have not a right to discuss freely the value of medicinal agents. If Dr. C. Seiler's case goes against him it follows that medical men and journals will have to keep silent in all therapeutical discussions as to proprietary nostrums.

Surely it will not be for the public good if such a state of things is brought about. No doubt it is unjust for medical men wantonly and maliciously to inveigh against special proprietary preparations, but instances of such action are extremely rare if they ever occur.

The evil effects of the present practice of forcing proprietary mixtures upon the profession and public, have received, in Dr. Seiler's case, a new illustration. We trust that it will be a fresh inducement to the profession to stick to the Pharmacopœia.

SUCCESSFUL LUNG-SURGERY.

THERE is, perhaps, no operation in the whole range of surgery that seems to hold out so little immediate or ultimate success as that of the removal of a malignant growth from the lung. Yet this has been done successfully by Professor Krönlein, of Zurich. The case was one of sarcoma of the chest-wall and left lung, occurring in a woman eighteen years old. The operation was performed in 1884, and its immediate success was chronicled in the *Berliner Klinische Wochenschrift*, No. 9, 1884.

The patient was lost sight of for two years, and it was feared that she was dead. She reappeared, however, a short time ago, and Professor Krönlein states that she is still in blooming health. A careful examination of the lung led to the conclusion that there had been no return of the disease. Cases of sarcoma of the ribs and lung are, of course, extremely rare, but this does not make

Krönlein's contribution to surgery any the less brilliant.

It is impossible not to contrast the striking feats of which modern surgery boasts—such as resections of the stomach and intestines, removal of the diseased thyroid, of the larynx, etc.—with the operations upon which our surgical fathers took pride, which were lightning-like amputations, lithotomies, and ligaturing the large arteries. But doubtless our descendants will think with just as pitying smiles of our trivial dabblings in laparotomy and lung resection.

THE INOCULATION OF A CONDEMNED CRIMINAL.

FROM the Hawaian Islands comes the news of the first attempt to use a condemned criminal for the solution of an important hygienic and scientific question. Over two years ago, the government procured the services of an accomplished bacteriologist and pathologist, Dr. Edward Arning, for the purpose of having a thorough and scientific study made of leprosy. For two years Dr. Arning followed up the subject, and apparently with great industry and skill.

Special attention was, of course, paid to the *Bacillus leprœ*, which was uniformly found in great numbers in the diseased parts, but not in the blood.

Attempts were made to cultivate the bacillus by Koch's method, using various media, but so far Dr. Arning has failed entirely. In this respect, Dr. Neisser, of Breslau, appears to have been more successful, for he has recently stated (*Virchow's Arch.*, 103, Bd. 1886) that in a few cases he has observed an exceedingly slow growth. Neisser also claims to have recognized spores, which Arning, so far, has failed to do. The latter made numerous inoculation experiments upon lower animals. The bacilli would grow at the points of inoculation for a long time, but the animal never became infected.

Finally, by permission of the Privy Council, Dr. Arning was allowed to make an inoculation upon the condemned criminal Keanu, whose sentence was commuted to imprisonment for life. With Keanu's written consent, an inoculation was made of leprous matter in the convict's arm. Bacilli were found in the sore or the scar until fourteen months later, but no constitutional symptoms were observed.

One further observation of importance was made by Arning. He found that in putrid leprous tissues, and even in the body of a leper who had been dead for three months, the bacilli were found in great numbers. This seems to bear against their specific pathogenetic function.

We regret to learn that owing to difficulties with the Health Board, Dr. Arning's work will probably be discontinued.

ALCOHOLISM AND ITS PREVENTION.

A GREAT deal of interest is being taken in France regarding the subject of alcoholism. "This word," says Lanceraux, "was unknown to French physicians previous to 1850, but since that time the pathological phenomena of chronic alcoholic poisoning have been carefully studied." All the French writers agree that the manufacture and sale of alcoholic drinks should be regulated by the State. All seem to agree also in the view, that the most serious physical and moral ills that alcohol produces are the result of using distilled and falsified liquors. Dujardin-Beaumetz and Andige, Lanceraux, M. Girard, and M. Mottet, have given evidence to this effect. M. Mottet cites cases of explosive mania brought on by these adulterated drinks. Lanceraux shows that most of the cases of alcoholism admitted to the Paris hospitals occur in persons brought up in the provinces where brandy is used.

"Children of vinous drunkards," he says, "do not inherit the vice, but the children of parents who indulge in liqueurs and drinks manufactured from cereals and potatoes, show marks of degeneration." He regards wine, beer, and cider as harmless, or only slightly dangerous. But wine must not be fortified (as it usually is) with alcohol.

The French remedy for intemperance is to allow the sale of the weaker liquors above mentioned, but to watch their manufacture and composition. The sale of distilled liquors should be carried on by only a few responsible persons; these liquors should be heavily taxed, and the most stringent regulations should be made to prevent their adulteration, and secure their careful manufacture.

THE "CRAMMING METHOD" IN PHTHISIS.

MANY observers, in this country and elsewhere, have attested to the therapeutic value of the method of "cramming" in phthisis. It has not been found necessary in all cases to use the syphon-tube, although that is usually a most effective help.

Quite recently some interesting observations upon this subject have been made by Dr. M. G. Kurloff, of St. Petersburg. He made six experiments upon five phthisical patients who had been rapidly emaciating. These patients were given a mixture of milk and meat-powder, nearly a pound of the latter being given at a time. The average amount of nitrogenous food daily was equivalent to 3¼ pounds of fresh meat, while the maximum was equal to 5⅓ pounds of fresh meat. The average amount of nitrogen ingested daily in this mass of food was from 50 to 80 grammes, against the average, in an ordinary diet, of 18 grammes.

The effect of this cramming was to increase greatly the excretion of nitrogen (not necessarily the tissue-waste, as Kurloff states). Thus the nitrogen excreted by the urine rose from a mean of twelve grammes daily to thirty-four and fifty-six grammes.

Of more importance was the fact that the nitrogen assimilated was increased, or, in other words, tissue was built up at a rapid rate. Thus the mean assimilation, expressed in grammes, per kilogramme of body-weight before, during, and after the cramming process, was respectively 0.24, 0.89, and 0.29. The patients' appetites improved, and the body-weight increased at the rate of nearly one pound a day. The treatment was, however, kept up for too short a time to obtain anything but experimental results.

These confirm previous experience as to the value of the cramming process, and point especially to the need of genuine cramming, *i.e.*, of giving food in very large excess.

News of the Week.

A Duel among Doctors.—The editor of the *American Practitioner and News* appears to have had a genuine challenge to fight a duel. This must be an agreeable change from the hard routine of the medical editor's life, and we trust our esteemed contemporary is enjoying it. The "challenger" is at present an individual who wrote a ridiculous tirade for the *News*, and sent it anonymously. The *News* printed some specimen imbecilities, and concluded by saying: "The communication is anonymous, and it is well for the writer that it is so." Whereupon the writer pens the following: "If you feel that you would like to have any sort of personal satisfaction from the writer, and can furnish a respectable indorser to that effect, my name shall be forthcoming." We may yet have some gunshot surgery in Louisville.

The European Medical Press.—For unblushing misrepresentation we imagine that nothing can much exceed a statement in *The Medical Bulletin*, to the effect that the present organization of the Congress "receives the earnest support of *The British Medical Journal*, *Le Progrès Médical* (not *Medicale*), and other influential European journals." We are furthermore told that the *Medical Times and Gazette* had to suspend because it attacked the American Medical Association! It is a bad case when such trumpery statements have to be brought in to its support. They only promote bad feeling, and make concessions and settlement more difficult. The fact is, that there is not a European medical journal, except perhaps two, which is not in a quandary over the Congress.

A New Reason for Banishing the Classics.—Professor Theophilus Parvin, in a recent eloquent and learned lecture, said: "It is sadly true that the study of the classics is calculated to breed and foster immorality. Virgil, in immortally beautiful language, really makes arguments in favor of onanism and pæderasty. If for no other reason, for this alone, I would favor the banishment of the classics from college courses, for they have a tendency to sow that terrible seed about which I have spoken." We can hardly believe that Professor Parvin is serious in the above statement. There is certainly nothing worse in the best classic writers than in the best English classics, while one modern French novel can outdo the whole Augustan age in nastiness. As for Virgil, we cannot have him slandered so. From a pretty thorough knowledge of what is medical, at least in Virgil, we recall only one passage that at all appears to "encourage immorality." This amounts to not much more than Tennyson's

"In the spring the young man's fancy lightly turns to thoughts of love."

Virgil, says Horace, was the best of men and of friends.

The American Analyst makes the charge that The Medical Record has "attacked" the cigarette-makers of a certain Richmond firm, and has accused them of immorality, etc. Our astute critic is quite mistaken, as he would see if he had read the article in question more carefully. What we did say was that working-women who pull up their dresses when being photographed for the public, are presumably of loose character. We advise our contemporary not to press this discussion.

The Arkansas State Medical Society will meet at Helena on April 28th.

Another Point of View.—"If we might express our own observations, we would suggest that a thorough education is one of the least factors in the elements which go to make the practice of medicine successful from a monetary point of view; and we fail to see how any profession could be attractive to thoroughly educated young men in which success, in its usual acceptation, bears no ratio to learning and proficiency."—*Miss. Valley Med. Monthly.*

The Medical Practice Act of Illinois has accomplished the following in its eight years of existence: In 1877 there were 7,400 persons engaged in practice, of whom 3,600 were graduates, and 3,800 non-graduates. In 1886 the total number engaged in practice was 6,065, the graduates being 5,327, the non-graduates 738. The effect of the law has been, therefore, to keep down an increase in doctors and to reduce the proportion of non-graduates from fifty-two per cent. to thirteen per cent. Assuming that the population has increased by several hundred thousands, it would be a fair estimate to suppose that the proportion of physicians to population in Illinois is not far from 1 to 600. In the neighboring State of Indiana it is 1 to 396, and in Ohio 1 to 500.

The Louisville Medical College graduated a class of eighty-seven at its Annual Commencement, February 25th.

Two Newspapers and a Moral.—We have received two newspapers, one a German daily, published in St. Louis, and the other *The Kansas City Journal.* One contains the woodcut and glowing biography of a gentleman somewhat known in gynecological circles, and hitherto standing well in the profession; the other, published in much the same style, is evidently that of a confessed quack. There used to be a geometrical axiom to the effect that "two things equal to the same thing are equal to each other." Does it apply here?

Bad Water and Typhoid in Philadelphia.—At a meeting of the County Medical Society, held in Philadelphia on March 24th, a resolution was passed advocating the completion of the East Park and Cambria reservoirs. Dr. Thomas said that Philadelphia water is contaminated by sewer water and cemetery leakings. Many ladies would not drink the water, and many diseases were caused by too little water drinking. The water is no longer fit for domestic uses. There is more typhoid fever in Philadelphia than in any city of its size in the world. —*Sanitary News.*

More "Successful" Treatments of Diphtheria.—Dr. H. Heyder, of Plau, in Thuringen, states in the *Centralblatt für Klin. Med.*, 1886, No. 12, that he has treated two hundred and fifty cases of pure diphtheria, in the past two and a half years, with a mortality of only seven, or two per cent. He has uniformly used chlorate of potash and muriatic acid, giving these drugs alternately. To older persons he gave also a gargle of corrosive sublimate (1–3,000), to babies he gave a solution of the salt.

Trichinæ have been found in wild hogs by the persons at Potsdam engaged in examining their flesh.

A STATE CHARITIES AID ASSOCIATION has been organized in New Jersey.

THE ANNUAL MEETING OF THE MEDICAL ASSOCIATION OF GEORGIA will be held in Augusta, on April 21, 22, and 23.

A POLYCLINIC is to be organized in Atlanta, Ga. Commenting upon this the *Atlanta Medical and Surgical Journal* speaks of the "Polyclinic in Vienna." There is no "Polyclinic" in Vienna, but there is a Policlinic.

THE FRENCH GOVERNMENT has passed a law permitting persons to make a will giving their bodies to learned societies.

SIR HENRY THOMPSON has written a new novel entitled "All But." He has illustrated it himself with numerous sketches.

THE DEATH OF PROFESSOR C. C. F. GAY, a well-known surgeon of Buffalo, is announced. Dr. Gay was Professor Emeritus of Operative and Clinical Surgery in the Niagara Medical College.

DOUBLE CATARACT EXTRACTION AT AN ADVANCED AGE.—An old Russian tailor whose age is one hundred and one has just had cataract extraction performed successfully on both eyes.

MEDICAL BOOKS IN GERMANY.—There were nine hundred and four medical works issued by German publishers in 1885, as against nine hundred and twenty-eight in 1884.

PROFESSOR BILLROTH, of Vienna, accompanied by one of his assistants, recently went to Alexandria, Egypt, to perform an operation upon the person of a rich banker there. For the expenses incurred and his services he was to receive the sum of 25,000 francs.

A PASTEUR INSTITUTE IN RUSSIA.—Prince Alexander of Oldenburg has created, at St. Petersburg, an establishment on a small scale for applying Pasteur's method. Experiments are made on dogs and rabbits before operating on man. Prince Alexander defrays all the expenses of the establishment.

BERI-BERI is ravaging the whole coast line of Brazil, and is causing a greater mortality than yellow fever. Beri-beri in Brazil, according to a correspondent of the *Journal of the American Medical Association*, is widely different from the disease of the same name in India. The Brazilians do not seem to know its true nature, viz., that of a multiple neuritis.

A NOVEL OPERATION IN LIVER SURGERY has been performed by Dr. George Harley (*Med. Press*). In a case of acute hepatitis with enlarged liver, ascites, and other symptoms pointing to an inevitable fatal termination, Dr. Harley introduced a trocar and cannula deep into the centre of the liver and drew off twenty ounces of blood. The patient made a good recovery, and Dr. Harley thinks that hepatic phlebotomy is destined to take rank in therapeutics as a safe and effective measure.

REVERSION OF THE BLOOD TO A LOWER TYPE.—Dr. Frederick P. Henry, of the *Philadelphia Medical Times* advances the theory that in pernicious anæmia there is a reversion of the blood to a simpler ancestral type. He finds that the blood-corpuscles in this disease are reduced to half a million or a million per cubic millimetre; that the proportion of hæmoglobin is often increased above normal; that many of the corpuscles are greatly increased in size and are altered in shape, being oval. In all these respects the blood approaches, as he believes, the character of that of cold-blooded animals. Dr. Henry calls it a case of "tissue reversion;" but blood is not now generally regarded as a tissue but as an internal medium. We fear that the hypothesis of Dr. Henry must be considered somewhat fanciful.

DR. A. M. SHEW, Superintendent of the Connecticut Hospital for the Insane at Middletown, was stricken with apoplexy on April 12th, and died on the same day. His health had not been good for several years, and much of the time he had been absent from his duties. He was born in Jefferson County, N. Y., September 18, 1841. In 1862 he accepted the office of Assistant Physician in the New York Asylum for Insane Convicts, at Auburn, after which he went to Philadelphia and graduated at the Jefferson Medical College. Later he became Assistant Surgeon of United States Volunteers. In the spring of 1866 he was appointed Assistant Physician of the New Jersey State Lunatic Asylum at Trenton, and remained there until the following September, when he was appointed to superintend the construction and organization of the Middletown Hospital.

NEW MEDICAL SOCIETIES IN RUSSIA.—Two new medical societies have recently been started in Russia. One is for the study of syphilis and dermatology, and has already met several times, the president being Professor B. Tarnovski, and the vice-president Professor Polotebnoff. The other, devoted to ophthalmology, is in process of formation.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The Executive Committee have selected the following topics for consideration at the next meeting of this Association, which will be held at Toronto, Canada, October 5 to 8, 1886: 1. The Disposal of the Refuse Matters of Cities and Towns. 2. The Condition of Stored Water-Supplies, and their Relation to the Public Health. 3. The Best Methods and the Apparatus Necessary for the Teaching of Hygiene in the Public Schools, as well as the Means for Securing Uniformity in such Instruction. 4. Recent Sanitary Experiences in Connection with the Exclusion and Suppression of Epidemic Disease. 5. The Sanitary Conditions and Necessities of School-houses and School-life. 6. The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them. 7. Plans for Dwelling-Houses.

POISONING FROM THE EXTERNAL APPLICATION OF ACONITE.—We have received some communications which make it doubtful whether the case of supposed poisoning by the external application of aconite, reported in THE RECORD of February 27th, page 243, was really one of that character. It is certainly very unusual for tinct. aconite to be absorbed by the skin.

A READY METHOD OF MAKING KOUMISS.—Take one square cake of compressed yeast, dissolved in a tumbler of warm water, a dozen cubes of sugar, and two quarts of milk; then put all in patent beer bottles; let it stand twenty-four hours, when it is ready for use.

Reviews and Notices.

ROME IN WINTER, AND THE TUSCAN HILLS IN SUMMER. A Contribution to the Climate of Italy. By DAVID YOUNG. Pp. 283. London: H. K. Lewis. 1886.

THIS book describes the principal elements in the climate of Italy: "The prevailing diseases are compared with those of England and northern countries generally, and the *type* of diseases likely to receive benefit in Italy is dwelt on at some length, while the sanitary state of the city" [of Rome] "and the important and increasingly interesting subject of malaria are also considered." The author considers the subject of climate generally, and that of Rome in particular, in the first two chapters; in the third and fourth chapters he discusses the unhealthiness of Rome and Roman fever. There is a very interesting chapter on "The Water-Supply of the City," both ancient and modern, and one on "How to live in Rome." The description of "Summer Quarters near Rome and in Tuscany" are of special interest, and embrace two chapters. The ninth chapter is devoted to "The Class of Invalids likely to derive Benefit from a Residence in Rome." A feature of interest is the description of the so-called "Roman fever." This disease is compared to the "typho-malarial" fever which so generally affected raw soldiers during the War of the Rebellion. It would appear that Roman fever is a sickness due to exposure to thermal vicissitudes during nervous exhaustion; thus "Some, after a shorter or longer period devoted to sight-seeing in Rome or Naples, began to feel fatigued and ill, this condition being soon followed by an attack of diarrhœa. Others attributed their illness to a chill caught on their return homeward about sunset." The author claims a malarial influence as causative, but thinks the disease more akin to typhoid than any other fever. The fever is not liable to recur. There seems to be three principal theories in respect to the origin of "malaria" in Italy: "(*a*) That the disease is produced by weather influences alone; (*b*) that it is due entirely to the soil; and (*c*) that it is essentially a disease of parasitic character." A great deal of space is taken up with a discussion of this subject, but the reader is left in the same state of doubt that has always existed in respect to the character of malaria; perhaps it would be well to banish from medical nomenclature a term used to obscure rather than clear up the causes of much of the illness to which mankind is subject. The "evil one" of theological form has scarcely served to create more illogical disputation than has "malaria." The author gives much information of value to both physician and tourist.

THE ADIRONDACKS AS A HEALTH-RESORT: Showing the Benefit to be derived from a Sojourn in the Wilderness in Cases of Pulmonary Phthisis, Acute and Chronic Bronchitis, Asthma, "Hay-Fever," and various Nervous Affections. Edited and compiled by JOSEPH W. STICKLER, M.S., M.D., Visiting Physician and Pathologist to the Orange (N. J.) Memorial Hospital, Member of the New York Pathological Society, etc. Pp. 198. New York and London: G. P. Putnam's Sons. 1886.

IN view of the somewhat chaotic and unsatisfactory condition in which we find the literature pertaining to the New York wilderness as a resort for invalids, it is a matter of congratulation that so competent an investigator as Dr. Stickler has taken the trouble to make a careful study of the subject, and to bestow upon us the benefits of his labors in the little volume which lies before us.

Chapter I. treats of the importance of climatic treatment in pulmonary affections, chiefly by quotations from acknowledged authorities on the subject. The author then briefly describes (Chapter II.) the chief localities of interest to physicians and invalids in the Adirondack region, the methods of access to them, their altitudes, variations in temperature, etc. Chapter III. treats of "Camping," and contains some useful hints regarding this (in many cases) valuable adjunct to a sojourn in the mountains. The remainder of the book is taken up with communications to the editor from physicians, clergymen, and others who have had personal experience in the woods. Among the medical contributors are Drs. Loomis and Leaming, of New York; Levick, of Philadelphia; and Ward, of Albany. A striking unanimity of opinion in favor of the climate of the Adirondacks for many forms of disease is observed in the correspondence. Indeed, a superabundant enthusiasm leads several of the contributors to draw rather heavily on the credulity of their readers. For example, the statement on page 48, by a distinguished Boston divine, to the effect that the water in some localities is so lucid that a newspaper might be read through eight or ten feet of it in a perfect calm! Barring these occasional overflows, the book is to be highly commended, and merits a careful perusal, not alone from invalids contemplating a change of climate, but from every progressive practitioner of medicine as well. The contributions of Drs. Loomis and Levick are especially worthy of attention. A map of the region would enhance the practical value of the book.

THE METHODS OF BACTERIOLOGICAL INVESTIGATION. By DR. FERDINAND HUEPPE, Docent in Hygiene and Bacteriology in the Chemical Laboratory of R. Fresenius, at Wiesbaden. Translated by HERMAN M. BIGGS, M.D., Instructor in the Carnegie Laboratory, and assistant to the Chair of Pathological Anatomy in Bellevue Hospital Medical College. Illustrated by thirty-one woodcuts. New York: D. Appleton & Co. 1886.

THE study of bacteriology is one which at the present day is of exceeding importance, but which in this country has hitherto been pursued by but a very few even of the younger generation of physicians. One great cause of this neglect has been the want of a suitable manual of instruction in the method of bacteriological investigation. Another has been the lack of instructors and of institutions in which the rudiments at least of the science might be taught. The latter want has been supplied in a measure in the large medical centres, and now the former, without which the latter would be incomplete, has been met in a most satisfactory manner by the work before us. Dr. Hueppe needs no introduction to those who have any acquaintance with the literature, already so voluminous, of this new and fascinating branch of medical science. The work treats in a most thorough and comprehensive manner of the whole subject of bacteriological study, and includes a description of the different forms of bacteria, the manner of isolating them by culture, the methods of staining, etc. A brief notice is given of the process of inoculation for the determination of the etiological relation of bacterial growth to disease, and also of the methods of investigation employed to ascertain the presence of micro-organisms in the earth, air, and water. The translation is well made, and illustrations are inserted wherever they are necessary to make the text more clear. We can commend the book to all who desire to acquire a general knowledge of the subject of bacterial pathology, even though they may not have the opportunity or the inclination to study the question practically. To those who wish to have more than a mere theoretical knowledge of the subject, the manual will be found to be indispensable.

"ONE Hundred Doses for a Dollar," is the way a patent medicine heads its "ad." Man takes a dollar's worth. Then the undertaker comes along, and it costs the man one hundred dollars for one dose. Thus we see all things come around even in this old world, after all.—*Burdette.*

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 24, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

DR. G. C. FREEBORN, from the Committee on Microscopy, reported that the tumor of the brain presented in behalf of a candidate at the last stated meeting was a *small, round-celled sarcoma.*

DR. H. MARION SIMS presented, in behalf of a candidate, a specimen of *dermoid cyst and carcinoma* in the same ovary, accompanied by a microscopic section.

DR. GEORGE F. SHRADY presented, in behalf of a candidate, specimens removed from the body of a child that died of *acute miliary tuberculosis.*

DR. T. MITCHELL PRUDDEN presented, in behalf of a candidate, a specimen of *intussusception.*

DR. L. WALDSTEIN presented a specimen which showed

STRANGULATION OF THE JEJUNUM BY A DIVERTICULUM.

The patient was admitted to the German Hospital with symptoms of perforative peritonitis. The autopsy revealed a loop of the jejunum cyanosed and filled with bloody liquid, constricted under a diverticulum from the ileum which had become adherent lower down as the result of an old inflammatory process. He had presented two similar specimens within a year.

Dr. Waldstein also presented a specimen which illustrated

ELONGATION AND ABNORMAL FIXATION OF THE VERMIFORM APPENDIX,

attended by perforative peritonitis. It was removed from the body of a child nine years of age, who died after an illness of five days. The specimen confirmed an opinion expressed at a former meeting, that fixation of the vermiform appendix in abnormal positions by adhesions was favorable to the development of typhlitis. In this specimen there was evidence of chronic inflammation involving the mucous membrane, followed by acute inflammation and perforation.

Dr. Waldstein also presented a specimen of

FIBROMA OF THE MESENTERY,

removed from the body of a woman thirty-one years of age, who was never specially sick, although anæmic in girlhood, whose menstruation was regular, painful in the beginning, and who was the mother of three children, all the labors being normal. In 1884 she aborted at the fourth or fifth month. Since the spring of 1885 she had suffered from constant pain in the abdomen, but it was especially severe after exertion. Since November last pain has occurred in paroxysms, extending to the small of the back, down the thighs, and, on account of vomiting, she supposed herself to be pregnant. Menstruation ceased. She also began to emaciate. The bowels were usually regular. Occasionally there was discomfort in urinating.

When admitted to the hospital, January 10, 1886, she was pale and somewhat emaciated, with a temperature of 99.3° F., and pulse of 100. In the median line, from the symphysis pubis to nearly the umbilicus, there was dulness on percussion, and pressure in this region elicited pain. A little to the right of the median line, when the patient was lying upon her right side, a tumor could be felt distinctly, which was adherent to the abdominal walls. The patient was anæsthetized, when it was found that the tumor could be easily moved over to the right side of the abdomen, but not to the left, and even up to the lower edge of the liver, while the uterus remained in its normal position, and the tumor had no connection with the ovary. The left kidney could be felt, but the right one could not be recognized. The tumor seemed to be ovoid in shape, and the diagnosis of movable kidney was made.

The patient died on January 22, 1886, with symptoms of perforative peritonitis.

The autopsy revealed a dilated and cyanosed small intestine, with bloody serum in the pelvis. To the right of the umbilicus there was an oval tumor, hard, and measuring twelve centimetres long, eleven wide, and ten thick, which carried the jejunum with it when moved; but on close examination it was found that it was situated between the folds of the mesentery, which accounted for its close proximity to the intestine. The vessels of the tumor were large and distended, and in several places there were extravasations of blood.

Microscopical examination of the tumor showed that it was a pure fibroma. There was no enlargement of the lymphatic glands.

DR. J. C. PETERS said that Dr. Alonzo Clark had reported a case of tumors connected with the intestines, which were decided to be adipose rather than fibrous; there were several, and some of them had become detached and were loose in the peritoneal cavity.

DR. MENDELSON asked Dr. Waldstein if the tumor he presented was a true fibroma, or was it a myo-fibroma? showing that it may have originated in the muscular coat of the intestine.

DR. WALDSTEIN replied that he examined carefully with reference to the presence of muscular tissue, but was unable to find any; and he also examined with reference to the condition of the lymphatic glands in the region of the tumor, but had no reason to suppose that it originated in this kind of tissue.

ABNORMALITY OF THE PLACENTA.

DR. H. J. BOLDT presented a placenta which showed an abnormality that he had been unable to find reported. There was a peculiar corrugation of the fetal surface leaving it 11 c.c. in diameter, while the maternal surface was 15 c.c. in diameter. The fetal side showed an unusual vascularity and a number of small cysts. On the margin of the fetal surface there was a hard rim from which the three layers of membrane sprang, and in the middle portion of it there was also a layer of apparently fibrous tissue which encircled that side of the organ. The cord exhibited the same varicosity seen upon the placenta, and a fold of the amnion had been thrown of and become attached to the cord at a point situated at a considerable distance from the placenta. The labor was normal, and the pregnancy one which followed immediately on recovery from an attack of septicæmia. The specimen was referred to the Committee on Microscopy.

Dr. Boldt also presented specimens taken from the body of a child five months old that died with symptoms of

TUBERCULAR MENINGITIS.

It was said to have been well up to March 6th, with the exception of a suppurating eczema behind the ears, which then ceased to suppurate and healed quickly. The symptoms were such as at first to lead both the attending physician and Dr. Boldt to the diagnosis of bronchial catarrh. Afterward the child was found rather sluggish and having had a number of attacks of vomiting and some diarrhœa. Dr. Boldt made the diagnosis of tubercular meningitis, which was confirmed by Dr. Janeway. At no time did the child's temperature rise more than one degree above the normal.

At the autopsy the pia mater was found injected with blood, but free from tubercles. The lateral ventricles were distended with serous fluid, and their walls were soft, as was also the entire central portion of the brain. At the base of the brain and in the fissure of Sylvius only were tubercles found. The lungs showed only a few tubercles. The bronchial glands were enlarged, as also

were the mesenteric somewhat. The other organs were normal.

DR. PETERS asked Dr. Boldt whether the drying up of the suppurating processes had anything to do with the internal disease, or was it rather that the severity of the internal disease had caused it to disappear.

DR. BOLDT thought that the latter was more probable than the former.

DR. T. MITCHELL PRUDDEN presented a specimen of

ANEURISM OF THE HEART, WITH CHRONIC ENDOCARDITIS AND MYOCARDITIS FROM CHRONIC INFLAMMATION OF THE CORONARY ARTERIES.

He was indebted for the clinical history of the case to Dr. Lambert, of Bellevue Hospital.

The patient was a married German cigar-maker, aged fifty-five. On admission he was unable to talk, but it was learned by signs that he had been sick for two months; in what way he could not explain. Two days before admission he was suddenly attacked with aphasia and paralysis of the right arm and leg. During the twenty-four hours preceding his admission to hospital his aphasia and paralysis had somewhat diminished.

On admission, March 20th, the temperature was 99° F. There was paralysis of the right side of the face, and partial paralysis of the right arm and leg. He could walk with assistance, but could not use the hand at all. He could feebly move the muscles controlling the elbow and wrist. His articulation was thick, and there were many words which he could not utter. He could write backward with his left hand (mirror-writing). He had well-marked Cheyne-Stokes respiration. Urine: Amber-colored; acid; sp. gr. 1026; fifteen per cent. albumin.

Physical examination.—Heart: A double murmur of the usual quality of a friction sound was heard at the apex. Apex beat displaced or diffuse. Heart's action regular. Lungs: Flat over both sides; behind there were subcrepitant râles. Tongue deviates to right. On the following day there were four loose movements of the bowels, and the heart-beats were feebler. He died on the third day after admission.

Autopsy.—Twelve hours after death. Brain: Meninges and brain-substance very œdematous. Patches of atheroma in all the large arteries at the base, particularly those of the middle cerebral and basilar. There was no hemorrhage, and no evidence of embolus. The abdominal visceræ were bound together by abundant loose old adhesions. About six hundred cubic centimetres of fluid in each pleural cavity. Pericardial sac contained about fifty cubic centimetres of fluid. The heart was large and extended toward the left. Both ventricles were widely dilated and their walls considerably hypertrophied. Both auricles were dilated. The pulmonary and tricuspid valves were slightly thickened. The aortic and mitral valves were somewhat thickened, and the latter presented numerous large patches of fatty degeneration. The lower right anterior third of the left ventricle was pouched outward about three centimetres, forming a broad ovoidal pocket about ten centimetres long and four centimetres wide. The wall of this pouch—*i.e.*, the heart-wall—at the thinnest point, which was just to the right of the apex, was about two millimetres thick, and composed almost entirely of dense connective tissue, which enclosed a few atrophied bundles of muscle-fibre. Over about one-third of the pouch the wall was nearly five millimetres in thickness, and from this it gradually thickened toward the sides, until it merged into the hypertrophied ventricle-wall, which, in its thickest part, measured about twenty millimetres. The endocardium lining of this aneurismal pouch was much thickened, and in places fatty and calcified. There were no adherent clots in the pouch. The endocardium of the left ventricle was everywhere moderately thickened. A large red clot lay against the papillary muscles in the cavity of the ventricle, and very voluminous red and white clots were entangled among the muscles. These clots showed very well ribs and striæ upon their surfaces, caused by the heart's movement. The larger trunks of the coronary arteries showed numerous layers and smaller patches of chronic endarteritis, some of which had encroached considerably upon the lumen of the vessels. This was most marked in the trunk leading to the pouched region. The aorta throughout its entire extent was the seat of numerous larger and smaller patches of fatty degeneration and atheroma. The radial artery was also thickened. Lungs: Slight adhesions of right lung behind. Both were congested and œdematous. Spleen: Slightly enlarged; very dark in color, and hard. Kidneys: Slightly enlarged; capsule free. Kidney-substance very dark red in color, dense, and hard. Liver: Showed dilatation of the central veins of the lobules. Microscopically, the kidneys showed the lesions of chronic congestion. There was no thickening of the walls of the blood-vessels.

THE PRESIDENT presented a mounted specimen, prepared by Dr. J. S. Thatcher, from an

INFLAMED MOLE OF THE FACE,

which he removed by operation from a lady thirty-four years of age, the mother of two children, the last six or eight months old, that had scratched and irritated this growth until there was marked thickening of the skin about it, and of the tissues underlying it, and the patient became alarmed because of the existence of cancer in the family—an aunt and grandmother having died of that disease. Dr. Wyeth removed the nodule, with the skin to the distance of half an inch surrounding it, and carried the incision down to the lower jaw and entered the corner of the mouth. Microscopical examination showed the thickened tissue was made up largely of embryonic tissue with giant-cells belonging to the benign process of inflammation. The surgical point in the case was, that such benign growths under irritation might become malignant.

The President also presented a specimen of

MYXOMA OF THE BREAST,

removed from a patient thirty-eight years of age, who had never been pregnant. The tumor had a history of six months' duration, and began in the inferior portion of the left breast. Of late it had been exceedingly painful. It was an inch by an inch and a half in area. The entire breast was removed, and the axillary space was explored, although there was no external evidence of enlargement of the axillary glands. The surgical point was, that with all tumors of the breast, whether malignant or not, of six months' duration, exploration of the axilla should be made to determine whether or not there exists any secondary affection of the glands, and if so, to remove them at once.

The President also presented a mounted specimen of

FIBRO-MYOMA,

removed from the left side of the tendo Achillis. It was of two years' duration, had been intensely painful, and was about as large as the end of his little finger. No nerve-filaments were detected in the mass.

DR. CARPENTER asked Dr. Wyeth if he still adhered to his former statement that there was no sarcoma without giant-cells, and if so, could it be reasonably inferred that the presence of giant-cells in a growth of the character just reported indicated the presence of sarcoma.

DR. WYETH said that when he made the statement in the Society, a year or so ago, he based it upon the authority of Cornil and Ranvier. He would not, because of the presence of giant-cells, regard a specimen as necessarily sarcomatous.

DR. CARPENTER remarked that he did not accept either proposition.

DR. PRUDDEN said that the statement that sarcoma did not occur without giant-cells could not be sustained.

DR. WALDSTEIN had very often found giant-cells in tissues which were in the state of chronic inflammation, and also had frequently found them where they were evi-

dently developed in connection with degeneration of striated muscle-fibres; also associated with diseased glandular structure, where they possessed no special significance. In the growth excised by Dr. Wyeth both striated muscle-fibres and sebaceous glands were involved.

At the stated meeting, January 13th, DR. A. JACOBI presented, in behalf of DR. WILLY MEYER, a specimen of

SUPERNUMERARY MAMMA,

with the following history, which, on account of the rarity of the specimen, the Society voted that it be printed with proceedings, together with the discussion.

"On October 6th of last year, I extirpated from the left axilla of a woman, twenty-seven years of age, a tumor, the clinical and microscopical appearance of which were of some interest.

"Mrs. Ph. F——, of this city, a healthy though delicate-looking person, passed three pregnancies. During the five months before her last confinement she noticed a small tumor in her left axilla, which gave rise to a slight pain now and then, but caused no other inconvenience. It grew slowly but steadily. In the middle of September she was confined of a healthy baby. A few days afterward she found a small tumor of the size of a walnut in her left breast, with more pain than that ever caused by the one in the left axilla. This gave her a good deal of mental trouble, as her mother had died of cancer of the breast.

"As soon as she was able to walk, she therefore consulted Dr. A. Jacobi, who did not think much of the last-mentioned tumor, but advised the extirpation of that in the left axilla, and sent her to me for that purpose.

"On examination I found in the axilla an oval, rather hard, flat tumor, with an uneven surface, firmly attached to, and movable with, the skin, which was folded over it, the folds running in all directions. By palpation it consisted apparently of several connected parts of an acinous structure, the touch of it being very similar to that of a lipoma. Pressure not painful. A broad but thin and smooth pedicle (fascia) led to the depth of the axillary cavity. No round strings could be felt in it. Around it were many swollen, soft axillary glands. A little above the exterior upper quadrant of the left breast was the above-mentioned tumor, apparently a small so-called 'mamma aberrata' seu 'accessoria.'

"According to this condition, it seemed rather impossible to make a positive diagnosis.

"The diagnosis of lipoma was excluded, on the ground that the tumor was too hard and too firmly attached to the 'folded' skin, and had grown too quick to its present size, although it was possible that the patient did not pay any attention to it when in its first development.

"For a fibro-sarcoma of the skin the tumor's fat-development under the skin, and the unchanged though folded surface of it, was strange.

"For a 'cancer' of the skin the patient seemed too young.

"The most probable diagnosis was 'supernumerary mamma' (aberrata). But then it seemed rather curious that this scattered tissue had displayed its physiological character only in the course of the third pregnancy.

"On account of the uncertainty of the diagnosis, and the anxiety of the patient, the removal of the tumor seemed most advisable.

"On October 6th I performed the operation, which required a thorough preparation of the whole axillary cavity—as the broad pedicle was a continuance of the deep pectoral fascia—and consisted in the removal of all the contents of the cavity and a portion of the skin. The diagnosis, supposed to be the right one, became evident in the course of the operation, when, by a superficial incision into the tumor, a white fluid mixed with serum (milk) escaped. (Of course it had to be proved by the microscope that it was not 'cancer'-juice.)

"The operation, performed antiseptically, had the usual good results. The wound healed by first intention, under the first dressing, up to the spot where a small drainage-tube led to the depth of the axilla. The tube was removed at the first change of the dressing (fifth day post operat.), and union was perfect ten days later. During this time the smaller node in the left breast had almost entirely disappeared, as I had assured the patient it would do.

"*Microscopical appearance.*—Dr. L. Waldstein was kind enough to examine the tumor and the glands microscopically. The tumor was evidently an adenoma, as it showed plainly acini and milk-ducts such as are seen in the mammary glands. The epithelial cells covering the inner surface of the acini and the ducts, as well as their ramifications, were more or less enlarged and showed a granulated protoplasm (production of milk). In many spots they were very numerous, reminding one of the nests of epithelial cells in cancer. But these nests evidently did not send the characteristic prolongations into the adjoining connective tissue; they only filled the lumen of the ducts. Besides, there was not the more or less dense infiltration of the connective tissue with smaller round cells, as is usually found in cancer. Nevertheless it seemed necessary, to clear up this part of the diagnosis, to examine the lymphatic glands which had been extirpated also. These showed the signs of the irritation only originating from the lactation process—'enlarged follicles and dilatations of the lymph-sinuses.' The epithelial cells which were discovered here and there showed the same granulated protoplasma as those seen in the tumor, and were carried away from there by the lymph-vessels.

"After all this, it is evident that the tumor represented an 'adenoma' consisting of normal breast-tissue. It belongs to the class of the 'supernumerary mammary glands,' as they are not so very infrequently found—but with a mammilla—on the lower and inner side of the normal mamma or in the axilla, more rarely in the median line of the abdomen, on the acromion, on the thigh.

"Certainly removal of the tumor was indicated, even with this benignant character. For it is a well-known fact that cancer of the breast likes to take its origin from these 'partes aberratæ,' a circumstance still more important in regard of the hereditary predisposition existing. Proper attention is therefore to be paid in this case to the above-mentioned, now scarcely observable, smaller tumor in the left breast. Should it grow in later years, its early removal is advisable."

DR. A. G. GERSTER remarked that supernumerary mammæ in the vicinity of the axillary cavity were more common than was usually believed, and during lactation they can be felt very frequently, especially in thin women. They are detached bodies which become distended, but may be connected with the mammary gland by lacteal ducts which terminate in a nipple. As many as four or five of these bodies have been found in the axillary cavity with a common excretory duct.

Another fact is that these detached bodies of mammary tissue sometimes become the seat of carcinoma. Dr. Waldstein had examined a specimen for him, and found that the carcinomatous growth commenced in one of these bodies situated close to the axillary cavity. Under such circumstances, of course, the mammary gland proper becomes involved first in the part nearest to the detached body.

DR. JACOBI said that Dr. Gerster's remarks made the case which he had presented still more remarkable. First, the woman was rather thin; second, she did not have a large mamma; and, third, she had not noticed anything at all after the first and second pregnancies, and it was only in the third that this tumor made its appearance.

DR. WALDSTEIN remarked that supernumerary mammæ were not at all rare, and were found over the thorax, but they nearly always had nipples of their own. It seemed remarkable in the specimen presented by Dr. Jacobi

that there was no such excretory duct connected with it. In addition to what Dr. Jacobi had said, he would take the liberty of adding that some of the axillary glands were also examined in this case, and they showed simple intumescence; besides, it was interesting to notice that colostrum was found in these enlarged glands. The connection between the supernumerary gland and the mammary gland proper could not be found, which made it additionally interesting, because the milk was obliged to seek an outlet through the lymphatic system.

Correspondence.

DETERMINATION OF THE SEXES.

To the Editor of The Medical Record.

SIR: Having read much that has been written of late years in the current medical literature on the "Influences that Determine the Sex of Infants," I have reached some conclusions which may, perhaps, merit discussion in your journal.

The contribution of Dr. Charles Ambrook, in The Medical Record for January 16, 1886, is particularly interesting, as it attempts a solution of the question by references to the lower organisms. Observations on the mating of cattle, dogs, rabbits, and other domesticated animals, though carefully tabulated for many years, have added nothing to our knowledge on the subject. To eliminate all disturbing factors from the question, we must commence by a study of the lower organisms, where growth and reproduction are the sole functions of existence, applying our deductions afterward to the condition influencing the higher forms, for our theory must be broad enough to cover every form of life.

From a study of the lower organisms, as well as from the rudimentary portions of sexual organs now possessed by the higher animals, we are led to consider unisexual organisms to have been preceded by and to be descended from a type possessing both male and female sexual organs in a perfect condition, as is customary with many forms at the present day.

In the long process of evolution many species gained a decided advantage in the struggle for existence, in the disuse or loss of the organs of one sex, permitting the individuals of either sex to concentrate their energies in one direction; but, unlike Dr. Ambrook, I conclude that those which lost the ability for reproduction have suffered a degradation of type rather than an advance.

The superiority of the female, in a sexual or physiological point of view, seems to me evident, when we consider the necessity of reproduction to the continued existence of the species.

For instance, among plants which are sexually separate, that one is far higher in grade which reproduces its seed and fruit, than that which merely liberates its myriads of pollen grains to drift at the mercy of the breeze, though in their present stage of development each is necessary to the other. Among most insects, too, the life of the female is practically the life of the species, the male being little more than a perambulating spermatozoa holder, with just enough intelligence to enable it to seek its partner. That man and many male animals have reached a higher muscular and nervous development than the female is owing to their relinquishment of this highest and most vital function, reproduction, and consequently their liberty to direct their energies into other channels, the most important of which was probably the ability to struggle with rival males for the possession of the female. The individual advantages they have gained in freedom from the great vital drain and exhaustion of child-bearing have been more than compensated by loss of function. They have, as it were, *parted with their birthright* for personal independence. Although man, by his inheritance of superior mental and physical characteristics, is still able to produce a strong impression upon the embryo, it must be acknowledged that he is, in a sense, childless, and that in a natural arrangement of the family the children would derive their names as well as blood from the mother.

The law, as I would interpret it, is this: The ovum only is essential to reproduction. The spermatozoid is primarily non-essential—has no direct influence on the sex, nor is it always necessary to the life of the germ. This is a bold statement, which needs to be supported by strong arguments. I will instance several, though the list may be indefinitely extended.

Among many species of insects the females unite very irregularly with the males. The aphis can propagate a whole season, during sixteen generations, without the presence of the male. Their ova not only develop into adult insects without the aid of the spermatozoid, but, what is more uncommon, they become perfect females, filled with ova, which, in their turn, produce perfect females. On the approach of winter some cause—diminishing temperature or supply of food, diminishing vitality of the germ through the long chain of generations, perhaps all these combined, result in this: that the ova are not all capable of developing into females, but take the opposite sex; the necessary consequence of the failure of one set of organs or functions determining the flow of blood and nutrition to the other.

The remaining males and females then pair, and the next batch of eggs are laid, to hatch out the ensuing spring, and with renewed vitality to repeat the generative circuit.

In like manner the queen bee can lay ova which will develop without ever meeting the drone; but, unlike those of the aphis, all such progeny are male. It is only after uniting with the drone that she can produce female ova, and she can then produce males or females at will, by admitting or excluding the spermatozoid to the ovum.

Would Dr. Ambrook insist that the female alone can produce ova of a higher type (male) than she can with the assistance of the drone? The contrary statement is the only possible solution of the question. Or would any one argue that the spermatozoid supplied the sexual element? That is the way the boy reasoned when he defined salt as "a mineral that causes meat to stink by not putting any on." On the contrary, the conclusion is so plain that it is my only excuse for placing the subject before you, having never seen these views advocated and being unable to see how they have been overlooked.

The ovum of the queen bee was perfect; it subdivided, absorbed nutriment, and developed into the adult insect, only it lacked just that modicum of vitality to determine the flow of blood or nutrition to the ovaries, and to enable it to take its place in the female line and carry on the process of reproduction. Hence, of its two sexual possibilities, one, the most important, failed; and the second went on to development in its turn. The new insect can never reproduce itself, but through its spermatozoa is still capable of assisting another and more favored individual. Had the spermatozoid met that ripe ovum at the proper moment, its contents, rich in nitrogen, carbon, and that most stimulating of all cell-food, phosphorus, would have been absorbed into the ovum and supplied just that energy or vitality which before was lacking to produce the female. Further, as the bees need but one female in the nest, the interests of the family are best subserved by a modification of the remaining female ova into *workers*.

This is effected by supplying the young larvæ with a scant diet, which stunts the whole sexual apparatus, besides modifying the body and external organs of the bee in a wonderful manner.

In these cases the attempt to depress the vitality of the embryo was begun too late to affect the male organs, and can only prevent the full development of those of the female.

Mrs. Mary Treat, in studying the habits of several spe-

cies of butterflies at Palatka, Fla., a few years since, made some interesting discoveries in this connection. Of a large number of larvæ which she confined and fed profusely, almost all became females; while another batch selected at the same time and under the same conditions, but sparingly fed, almost all developed into males. Obviously the circumstances which in these experiments determined the sex were such as more or less interfered with the nutrition of the organism, and, acting while the sexual bias was undecided, turned the scale in a certain direction. Such investigations, conducted especially among insects, would throw a flood of light on the various causes which direct the flow of sexual energy; but it is probable that in most cases, particularly in higher organisms, the sexual bias is determined at the moment the ovum and spermatozoid unite, and long before the organism can be subjected to any influence outside the egg.

In applying my conclusions to animals of the higher types, it appears probable that their ova possess much less vitality; the size and complexity of the organism and its varied environment withdrawing much of the vital energies to other functions than the reproductive. Hence their ova invariably require the stimulus of the spermatozoid, without which they soon die, their sex in turn depending on the degree of vitality remaining in the ovum after its combination with the spermatozoid. I believe that in all cases those ova endowed with an excess of energy become female, and *vice versa*. At the very beginning of the separate existence of the ovum, when it is still but a single cell, the action of the spermatozoid upon it is probably that of a highly stimulant food increasing its capacity for future growth; yet, as this food undergoes no digestive change, but is bodily absorbed and mingles with the previous contents of the cell, it exercises an immense influence on the future being, second only to the original elements. Hence the progeny of a female resemble in some respects the male parent, though many, and in fact most, of its male characteristics may be inherited from its maternal grandfather. In defining a male we can hardly consider his masculine qualities as due to inheritance from his male parent; they are rather the sum of his inheritance from all his ancestry, back to the first separation of the sexes.

The female, then, is the type of the species—she is, I might almost say, the species itself; the male is only that form or modification of the species developed by the difference in his life and habits.

Holding the views I have here presented, the influence of natural selection in determining the relative proportions of the two sexes is easily understood.

When the vitality of the germ falls below a certain point, the resulting organism is a male whose sexual organs furnish the material necessary to raise the standard again above that point. In some insects, as the aphis mentioned, that influence lasts for generations; in others, as the bees, it affects only the sex of the particular ovum concerned, while in the higher animals the standard of vitality of the ovum has fallen to an extent which requires the presence of the male element in all cases, any further depreciation being resisted by the slight excess in the number of males.

Thus the internal forces constantly endeavor to correct the influences of the external.

In regard to methods of controlling sex, the possibility of devising anything practicable is very doubtful, especially in the human subject. The ovaries and their contents are developed at an early period of fœtal life, and the ova themselves appear to be very little affected by subsequent diseases of other portions of the body.

For this reason, women suffering with severe diseases, as consumption, may bear children of either sex unaffected, except as to want of nutrition while *in utero*. The testes are not so free from special disease, nor the spermatozoa so unaffected by the general health of the body, because an interference with the general health may interrupt their elaboration in countless millions in the testicle to a much greater extent than the ripening of a single ovum.

Nevertheless they do enjoy a remarkable immunity from disease in spite of that fact.

Any attempt at artificial selection will be likely to prove fruitless, since persons of superior muscular and mental development may be, for that reason, very poorly developed sexually.

A long list of exceptionally brilliant men might be given who have left no descendants, and not a few noted women, but the latter sex are not so productive in individuals of extraordinary qualities.

Women of strong mental and so-called masculine qualities are generally unfruitful.

Among animals, one fact has been noted which may have some influence on the sex. As they only mate at regular periods, the plan of influencing the ovum by an earlier or later fecundation has been attempted, and, as claimed, with some success, but the results are not yet on a sufficiently large scale to be reliable. A large breeder of dogs asserts that when the bitch has been served at the commencement of heat, she is more apt to produce females; if fecundation is delayed till near the end of heat, males. This is quite possible, and even probable, considering that an early impregnation of the ovum should insure its highest grade of vitality, and that, the favorable moment passed, its subsequent progress is toward disintegration and death.

Even this hint, valuable as it may prove to breeders of stock, is of no use to the human race, who unite more frequently, and in disregard of periods of ovulation; and even if this were not a fact, the meeting of the spermatozoa and ova in the Fallopian mazes is subject to so many uncertainties, and varied by such an immense personal equation, that experiment would probably be useless.

I cannot close this already too lengthy article without referring to a curious bearing of natural law upon human, or, may be, unnatural, laws. In man and many animals the embryo is known to exert in its turn a most extraordinary influence on the mother. Stock-raisers are aware that a domestic animal of pure breed, if once mated with a male of another breed, can never be depended on afterward to breed true. If this be a natural law, as is now generally admitted, the eldest child is more especially descended from the female parent than any subsequent offspring. Consequently the English law of primogeniture, while it aims to secure the inheritance steadily in the nearest male descendant, is necessarily an ingenious device for transferring the succession at each generation to an heir more especially descended, through the female, from another family. Where the mother happens to be an eldest daughter, her eldest child would be most nearly related to the *family of its maternal grandmother*. This is not a physiological enigma, but an inevitable corollary of natural laws.

ALBERT C. BEALE,
Hospital Steward, U.S.A.
ROCK ISLAND ARSENAL, ILL.

"CONTROLLING SEX IN GENERATION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My attention was promptly called to your kindly notice of my book, with above title, in THE MEDICAL RECORD of December 26th last, by a medical friend of your city, and I ought sooner to have made some grateful acknowledgment to you for it. But expecting that your review would draw out some objections, or at least some inquiries from others, I deferred the thanks till I could see what these might require, and make one communication suffice for both purposes.

My home is in, or near, New York City, but I am spending the winter in this Southern resort, where I had not a ready access to the numbers of THE MEDICAL RECORD as they came out, which must be my excuse for this delay.

The difficulty which all new ideas have is to get a hearing. They are generally regarded as intruders and denied even a hearing. As Professor Tyndall says, "A great theory has never been accepted without opposition; . . . all have to push their way through conflict to victory." And when, after long years of experiment and research, a man succeeds in evolving a new truth that he knows will be of high value to his fellow-men, he is yet far off from the ultimate success which utilizes his work. Many a meritorious invention is strangled in its birth by the carping critics who "know it will not work."

When, therefore, as in your case with my book, a helping hand is held out by a stranger, and even in the face of his preconceived ideas the new idea is recognized as meritorious and worthy of being considered, it is an encouragement that calls for thanks in return, and please, sir, accept mine for this service.

It is over thirty years since the investigation of this abstruse subject first pressed itself upon my attention, and nearly twenty years since the first rough manuscript of my book was written. My book was, therefore, no hasty publication, and I have such confidence in the truth of the main theory, that I am emboldened to say you will never have occasion to regret the favorable notice you gave of the book.

In saying this I am not blind to the fact that much of the collateral matter, at least, is yet not proven to the extent that the world will accept it as positive. When, after long years of investigation, one becomes satisfied in his own mind that he has elaborated a true theory of the action of one of nature's many mysterious laws, if he would not let his life-work die with him, and all his labor be fruitless, he must put it forth, as it were, tentatively, with such confirmations and support as he has been able within his lifetime to gather. The theory then appeals to others interested in the subject, who may be investigating in the same or a different channel, for further confirmation or for refutation. Through the wide jurisdiction of such a tribunal some things in my book may have to be modified, but the general principle therein enunciated —that the stronger sexual energy of one parent at the moment of impregnation will control the sex of the offspring, throwing it to the other sex, will, I am sure, abide and stand. This principle embraces a wise and beneficent biological law, of universal application in the generation of all organic beings by sex, through which the equilibrium of the sexes in numbers is everywhere maintained. For, as soon as either sex, through unfavorable conditions, is so weakened that the offspring tends to one side, these offspring will have been so re-inforced from the strength of the stronger parent that they in their turn will produce offspring of the opposite sex, and thus the equilibrium will tend to be restored.

There is no such general law found in any other theory of sex advanced; in fact, the equilibrium is left entirely to chance.

Further, my theory will properly explain and embrace many, if not all the other, theories or conclusions of writers on the subject. For example:

Carl Dühring, in a series of articles in *The Jenaische Zeitschrift* (favorably reviewed by Professor W. K. Brooks, of Johns Hopkins University, in *The Popular Science Monthly* some months back), gives as a positive fact, from statistics, that "as the mares increased in number put to the same stallion, there were more male colts," showing that as the male's sexual vigor was weakened by more frequent service, the sexual influence of the female was oftener prepotent to the production of males. These statistics ran up to over one hundred thousand colts. Dühring further concludes from his statistics, that "a favorable environment causes an excess of female births, and is unfavorable to male births." His statistics show that he means by "favorable environment," city life, where is found more wealth and luxury—though I would deem this an unfavorable environment for the vitality of the human race. My book explains this on my theory, that the malign influences of city life bear more especially on women, reducing their sexual vigor to a greater extent than they do that of the other sex; hence their ability to conceive males is reduced.

The theory that sex is determined by the age of the ovum when fecundated, that in the early, or, as called, immature state, a female is generated, and later, in its maturity, a male, finds many advocates; and some have thought from their experiments it nearly, or quite, solved the mystery, though it would fail at times. At one period of my investigations I held a view somewhat kindred to this, but finding it incomplete, discarded it. And yet, if the reader will reflect, he will see it is but a phase of the principle I present. The conditions surrounding the production of the ovum tend to excite the sexual desire, which naturally has its first feeble impulse and increases gradually in intensity as the period of heat progresses, till the ovum is impregnated, or is lost. If impregnation occurs early in this period there is likely to be less desire and female offspring the result; if late along a greater desire with a better chance for male offspring. But it is obvious that a strong female in the first or weaker stage may overbalance a weak male; and a weak female, in the later or stronger stage, be overborne by a stronger male, so that contrary results will be produced.

It is unnecessary to multiply these comparisons, they are quite obvious to those who seek; and I therefore suggest to your readers who may be unwilling to accept this biological law of mine as positively true, that they try it as a working hypothesis for a time and see if they will not be satisfied and really astonished at the number of peculiar cases it will fit; as an example, that of the conception of a daughter mentioned in THE MEDICAL RECORD of February 13th, p. 186, second column.

And now in answer to the objectors. One, January 16th, p. 81, remarks:

(*a*) "It is probable that energy will result in a greater effect than listlessness . . . but how can it be proven that this energy is transmitted to the spermatozoa or ovule?"

Ans. By the results of sex different from the parent of stronger vitality, where all the children are of one sex.

(*b*) "None so capable as physicians to testify on this subject."

Ans. Very probable. Though they do not likely propagate more children than other men through which the parental conditions at conception can be most accurately known, they have better opportunities to observe these conditions in the wives of others, if they give it their attention.

(*c*) "Thinks sex is a degree or phase of development."

Ans. Quite possible, but not probable, that an incipient female develops into a male, or the reverse.

(*d*) "In bees the same egg, according to environment, develops into a neuter gender (the worker), or into a female (the queen), or into a male (the drone)."

Ans. All wrong. The so-called neuter or worker is a female, the analogue of a girl before puberty. The development of the procreative organs is permanently arrested by deprivation of proper food, which, in case of need for a queen, is supplied to the larva, not to the egg. Instances are known of the worker occasionally laying a few eggs. The male larva cannot be developed into a female, nor the female larva into a male.

(*e*) "Some lower orders (frogs) show signs of an ovary and a testes in same animal, and this a proof that the testes are a more highly developed, not a differentiated tissue."

Ans. Not a proof of a more highly, but of a different, development, as I treat of in my book. All men have paps, but this is no sort of proof that they could at any stage of existence have further developed into females.

(*f*) "Regards an excess of females in a family as indicating the physical degeneracy of the family." Instances the British peerage as showing this.

Ans. As the parents are from different families, have both families degenerated when the female offspring are in excess? I show that this condition indicates a weakened mother, or a father too ardent; and that it may run to the extent, on the mother's side, of a degeneration. If the degeneracy is on the father's side alone, boys will be born, but they will not have strong vitality, and likely die early.

(*g*) "It is a fact that a long time can pass before the wandering spermatozoa meets its shipmate" (the ovum), from which an inference that "sexual excitement at the time these were launched cannot determine the sex."

Ans. Even admitting a long time can pass (which I doubt, as conception occurring in mid-menstrual periods is no proof), the *vis vitæ* with which the male and female products were separately started would inhere in each at their meeting, and the same results would follow as if the junction was immediate.

(*h*) "The present summit of sexual development seems to be a male."

Ans. A woman would doubt that, as would the man himself, when satisfied that his three boys are due to their mother's vigor rather than to his. Thomas Meehan, of Germantown, State Botanist of Pennsylvania, a long-time observer in the field of sexual development in plant life, says: "In dicœcious plants the more vigorous shoots produce the females, the less vigorous the males," indicating that the female is the highest development, or at least the one which nature takes most care to perfect.

In reply to the objector in No. 795, January 30, 1886, p. 139 of THE RECORD, I remark, I have no experience with such abnormal cases as he presents, of women conceiving without any sexual desire. There is a general disposition in the sex to conceal this desire, because men, while vaunting their own sexual energy, condemn its exhibition in women. The most I have met in this way is the not infrequent excuse of unmarried women for having an illegitimate child, that conception occurred while they were asleep and unconscious. I never knew them to find many of their own sex, who had been wives and mothers, to believe them. However this may be, any repression of the exercise of this function in a healthy woman, whether through disinclination, prudery, or fear of pain from malformation, would add to the power when conception did occur, and thus operate to produce males, on the same principle suggested in my book, that a too frequent use of the sexual organism by women, through its weakening effect, tends to the conception of females.

In the communication "Women and Bees," February 13th, p. 195, there are only three points the writer makes against my theory, and these clearly show she never read the book. These are:

(*a*) "Doubts of there being any locality where more girls are born than boys."

Ans. Read the statistics in my book and be convinced. The New York records of births are very defective, and mostly record the foreign born, as I have shown. Instead of 30,030 births, there must have been, according to all ordinary rules of proportion from vital statistics, fully 50,000. There were 35,696 deaths; the increase of population per annum, aside from immigration, is two to three per cent., and the births should be at least 65,000 to make the annual increase of population *two* per cent. This rate would double the population in fifty years, while it is held to double by births over deaths in thirty-three years.

(*b*) A deduction that because I say "the more sickly the wife, the more debilitated the children," I "make female and debilitated synonymous terms."

Ans. My proposition is so self-evident that it cannot be doubted, but the correspondent's deduction is not a logical one. There is no foundation for it.

(*c*) That I "have not realized that it is not deficient passion, but deficient breathing-room, that cripples (kills?) boys. The nourishment fails . . . because her blood cannot enrich the milk that is made."

Ans. This is precisely what I have realized and teach. First, that a lack of vital power in the wife, found in certain environments, makes her often deficient in the sexual power, from which she is less able to conceive boys; and second, that, from the same lack of vital power in her, the boys she does conceive cannot be properly nourished after they are born, while the girls, with their ability to passively endure privation, survive on the inferior pabulum.

SAMUEL HOUGH TERRY.

AIKEN, S. C., March, 1886.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 4, to April 10, 1886.

HARTSUFF, ALBERT, Major and Surgeon. Granted leave of absence for fifteen days. S. O. 71, Department of the East, April 7, 1886.

MCELDERRY, HENRY, Major and Surgeon, U.S.A. Ordered for duty as Post Surgeon, Fort Wayne, Mich. S. O. 69, Department of the East, April 2, 1886.

MERRILL, JAMES C., Captain and Assistant Surgeon. Granted leave of absence for three months. S. O. 81, A. G. O., April 7, 1886.

BIART, VICTOR, Captain and Assistant Surgeon. Sick leave of absence still further extended one year on account of sickness. S. O. 79, A. G. O., April 5, 1886.

BIRMINGHAM, H. P., Captain and Assistant Surgeon. (Camp Grant, New York City), temporarily assigned to duty at Fort Columbus, New York Harbor. S. O. 72, Department of the East, April 8, 1886.

LAUDERDALE, JOHN V., Captain and Assistant Surgeon. From the Department of Dakota to the Department of Texas. S. O. 79, A. G. O., April 5, 1886.

ADAIR, GEORGE W., Captain and Assistant Surgeon. From the Department of Dakota to the Department of the East. S. O. 79, A. G. O., April 5, 1886.

FINLEY, JAMES A., Captain and Assistant Surgeon. From the Department of Texas to the Department of Dakota. S. O. 79, A. G. O., April 5, 1886.

KILBOURNE, H. S., Captain and Assistant Surgeon. From the Department of Dakota to the Department of Columbia. S. O. 79, A. G. O., April 5, 1886.

GARDNER, E. F., Captain and Assistant Surgeon. From the Department of Columbia to the Department of the East. S. O. 79, A. G. O., April 5, 1886.

GRAY, WILLIAM W., Captain and Assistant Surgeon. From the Department of the East to the Department of Dakota. S. O. 79, A. G. O., April 5, 1886.

BANISTER, J. M., Captain and Assistant Surgeon. From the Department of the East (upon the expiration of his present leave of absence) to the Department of Columbia. S. O. 79, A. G. O., April 5, 1886.

CARTER, E. C., First Lieutenant and Assistant Surgeon. From the Department of Arizona to Columbus Barracks, Ohio. S. O. 79, A. G. O., April 5, 1886.

JOHNSON, R. W., First Lieutenant and Assistant Surgeon. From the Department of Dakota to the Department of the East. S. O. 79, A. G. O., April 5, 1886.

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. From the Department of Columbia to the Department of Dakota. S. O. 79, A. G. O., April 5, 1886.

ROBERTSON, R. L., Assistant Surgeon. On expiration of his present leave of absence will be relieved from duty in the Department of Texas and will report in person to Commanding General of the Department of Dakota for assignment to duty. S. O. 78, Department of Dakota, April 3, 1886.

Official List of Changes in the Medical Corps of the U. S. Navy during the week ending April 10, 1886.

DRAKE, N. H., Passed Assistant Surgeon. Detached from duty at Naval Hospital, Philadelphia, Pa., and ordered to duty at Naval Hospital, Brooklyn, N. Y.

FITTS, H. B., Passed Assistant Surgeon. Detached from duty at Naval Hospital, Brooklyn, N. Y., and ordered to duty at Naval Hospital, Philadelphia, Pa.

ANDERSON, FRANK, Passed Assistant Surgeon. Detached from Naval Laboratory, New York, and granted six months' leave from May 1, 1886, with the privilege of going abroad.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 10, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
April 10, 1886.....	5	8	40	2	16	60	4	0
Deaths.								
April 10, 1886.....	0	1	9	2	3	19	1	0

PARANOIA is the term adopted by German alienists, and gradually being introduced into this country, as a substitute for "*Primäre Verrucktheit*" and "primary monomania."

WYOMING TERRITORY AS A PLACE FOR PRACTICE.—A physician living in Wyoming Territory writes, asking us about the West Coast of Mexico as a place for practice. He says: "We have one physician to every two hundred inhabitants in this place. Business of all kinds, for the present at least, is suspended, owing to the overproduction of lumber and coal, the staple products. I have been here two years, and am just barely making a small living for my family." We cannot give our correspondent definite information regarding Mexico. He had better write to the United States Consul.

"FACTS FOR THOUGHTFUL CHRISTIANS."—Under this title, the New York Medical Missionary Society says: "About forty millions of heathens die every year with scarcely any medical aid. There are two white missionaries to about one million of heathens. There is one medical missionary to about ten millions of heathens. Modern medicine and surgery appear miraculous to the heathens; it is often very difficult to prevent them from even worshipping a doctor. Their gifts in gratitude for medical aid would shame many Christians. A medical missionary can, to a large extent, obtain his own support. His medical skill will open doors otherwise closed to the gospel."

RESPECTS TO THE SPECIALISTS.—*The Quarterly Bulletin* of the Post-Graduate Medical School for April contains a poem, read at the annual dinner of the School, and entitled "The Specialists." The author begins:

'Mid sulphurous fumes, in antiseptics rich
Enough to please our Peters—cure the itch,
Great Satan sat, dark frowns upon his face,
As when one finds another's got his case.
Fiercely he muttered: "Twenty doctors more
Within two days have come within my door,
And now at last—the news quite strikes me dumb—
The porter says some Specialists have come.
Should old ambitions once these fellows seize,
If they put out their signs, take in their fees,
Sure all my toils of little use would be,
Then I must go, this is no place for me."

The Demon rose, and shook from off his coat
The yellow films of *U. S. Sulphur lot.*,
Uttered a cough which all Hell's regions racked,
And ordered out his baggage, to be packed.
"I'll up to earth," he said, "for I must know
Why doctors are now rattled on me so."
Out into space he shot—a curious sight,
The Devil bent on setting things aright.

Now, since he knew the Old World quite too well
To try to keep the doctors there from—She'll,
He went to Boston, thinking that perhaps
Since Holmes 'd resigned he there would find a lapse.
(I pray my hearers to remove their frown—
I mix the Devil with so good a town
Because poetic doctors who must rhyme with pills
Can do it best where there are seven hills;
I'm sure, myself, that half the fame of Holmes
From this unevenness of Boston comes.)
And so from off her very highest mound
Our new Asmodeus cast his eyes around:
He saw the doctors' gigs below him creep,
He thought the ruts they rode in rather deep;
He saw great doctors whom big fees did fatten,
He saw the lady-doctors whom they sat on.

He saw a college, beautiful and old,
He saw another where degrees were sold;
He saw our Art lift up its banners high,
But saw that quacks and mind-cures were close by.
Yet 'midst it all he found such virtues grew—
The righteous rigid, but the wicked few;
The Devil thought, "I'll let this place alone,
The case is one of gravel, not of stone."
(The simile is old, but then I might
In Boston be a little litho-trite.)

As when a meteor skims earth's airy shell,
Or doctor jumps at the obstetric bell,
So Satan, leaving ancient Boston, down
He in one breath flew to a Quaker town—
(A town, dear friends, of which you've heard some talk;
Its people say it's better than New York.)

The visit to Philadelphia is described, and the Traveller, not finding much there to worry him, starts for this city.

"For sure," he said, "unless all stories lie
The doctors there are all much worse than I."

On his way, however, he meets with an explosion, by which he sustained a convenient multiplicity of injuries.

A much bruised party rose from up the ground,
He'd every ill that's in the body found—
A spine concussed, a fractured bone or two,
A dozen sprains, his skin quite black and blue,
Disordered function of each inner part,
Uneasy stomach, damaged lungs and heart,
But sweet philosophy some comforts bore,
"I don't mind much," he said, "I've fallen before,
And sure the fates do in my cause enlist
To fit me for each New York specialist."

He visits the surgeons, the votaries of Neurology:

"So great her Science, and so small her Art."

The Orthopædists:

"Harmonious children of a thousand braces."

Also the Ophthalmologists:

It is not strange—at least it is a fact—
That Satan's *falls* had caused a *cataract*;
Or that, with all the errors to him due,
Some errors in refraction he had too.
Some learned eye-men, therefore, soon were seen,
Who ply the art that's based on cocaine,
Atropia sulph., some glasses, and the trick
Of snipping off the iris double-quick.
But great among the specialists they rise—
They made the Devil open both his eyes,
And soothed them, so that when no longer sore
Th' insatiate patient clamored still for Moore.

Finally the Gynecologists are gently dealt with, as follows:

Besides, he found they'd stolen his own wares,
And caught their victims all in painful snares.
Some pleasures still in Satan's lot prevail,
For he at least unquestionably is male.
For him no gynecologist could seek
Within persuasive specula to peek,
Or, with some learned name his troubles labelled,
Like Parliamentary motions, have him tabled.
I'm sure that once the Devil stopped and prayed,
'Twas when he found that he could not be spayed.
(O gentle Art, I'm sure I am not blind
To all the good you've done for womankind;
But once 'twas woman's part to cut and sew,
While now to cut and sew her parts you go
Too oft', perhaps. Might it not be a gain
If you made less of womb and more of brain?)

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 17 NEW YORK, APRIL 24, 1886 Whole No. 807

Original Articles.

PELVIC ABSCESS IN THE MALE.[1]

BY T. HERRING BURCHARD, M.D.,

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BY reason of their comparative infrequence, the indefiniteness of their symptoms, and the natural difficulties in the way of diagnosis, pelvic abscesses in the male have not attracted the same surgical attention as have those occurring in the female.

The serious nature of the affection is quite as great, however, in the one as in the other, and its occurrence we believe to be more frequent than the meagre literature of the subject would lead us to suppose.

Indeed, in the standard English and American authorities, the subject is either entirely ignored or dismissed with a passing allusion—an omission that is especially felt when we are brought in personal contact with a case of this kind.

Five cases have fallen under my immediate observation. The last case I have the pleasure of presenting to the Academy this evening.

By pelvic abscess I wish to be understood as meaning a phlegmonous inflammation occurring in the superior portion of the pelvic cavity, below the cavity of the abdomen, from which it is separated by the pelvic reflections of the peritoneum, and above the muscular floor formed by the levator ani muscle.

It must not be confounded with abscesses of the abdomen—typhlitic, perityphlitic, etc.—nor with those originating below the levator ani, in the ischio-rectal fossa.

In the loose connective tissue which occupies this region, described by Richet as the *pelvi-rectal space* ("Traité pratique d'Anat. Méd. Chirurg.," p. 93, fourth ed., Paris, 1873), abscesses occasionally form.

From the peculiar anatomical construction of this space, with its bony lateral boundaries and its dense and almost impervious musculo-membranous floor, abscesses may originate here, producing most acute constitutional disturbance, and even very extensive local disorganization, and yet unaccompanied with any distinguishing symptoms that would call the surgeon's special attention to their existence. Not only this, but following the general law of abscesses to travel in the direction of least resistance, they will burrow internally to very distant parts without manifesting their presence by coming to the surface. Thus they will dissect their way through the foramina of the pelvis, and appear externally under the gluteal muscles; they have penetrated the acetabulum and destroyed the hip-joint (Mr. Morris, of Middlesex Hospital, London, amputated the thigh at the hip-joint in a lad of seventeen in such a case); they have dissected up the aponeurosis of the iliac muscles, produced necrosis of the ilium, and appeared (as in the case I shall exhibit this evening) upon the external surface of that bone. Or again (as in Case II. to be described), the abscess having emerged from the pelvic cavity, may travel anteriorly, following the course of the femoral vessels beneath Poupart's ligament, and make its appearance on the anterior surface of the thigh; or again, it may penetrate the hollow viscera and evacuate itself into the bladder, the rectum, or the peritoneal cavity. In fact, having once escaped its bony confines, there is no direction in which it might not travel.

Mr. Henry Morris (Ashhurst's "International Encyclopædia of Surgery," vol. v., p. 1024) divides such iliac abscesses of pelvic origin into two groups, (1) the sub-peritoneal, and (2) the sub-aponeurotic. The former, he claims, are prone to spread widely, in both an upward and a downward direction, reaching the upper boundaries of the abdomen, even burrowing behind the diaphragm; while the latter are more circumscribed, forming between the fascia iliaca and iliac muscle, and producing caries or necrosis of the bone.

Clinical history and symptoms.—The clinical history and symptoms vary naturally according to the acuteness or latency of the attack. Should the attack be acute, both the constitutional and local disturbance is proportionately the greater. In such cases the phlegmon forms rapidly, with great pain and corresponding febrile phenomena. Such an attack might readily be mistaken for one of general or circumscribed peritonitis. With the pain we have more or less abdominal distention, tympanitis, vomiting, flexion of the thighs, all of which are characteristic of that disease. Micturition is difficult or altogether impossible. The tumefaction may project into the rectum, setting up proctitis and tenesmus. Should the inflammation spread upward, localized or general peritonitis may result. "Inflammation beginning in the pelvic cellular tissue is anatomically prone to spread to the iliac fossa" (Morris, *op. cit.*).

Abscesses that form thus acutely are more likely to evacuate themselves spontaneously, in either the rectum or the bladder, than are those of a subacute or chronic character.

The following case, published by Dr. Bowditch ("First Medical and Surgical Report of Boston City Hospital," p. 64, 1870), is illustrative of the truth of this statement:

"A slater, aged twenty-five, was admitted into Massachusetts General Hospital, having fallen a height of thirty feet, striking his face and hands.

"Intense pain in the lumbar and umbilical regions, with bloody urine removed by the catheter, were the immediate symptoms. His condition grew worse. Pain was intense. Abdomen tympanitic and very tender. Later on an induration was detected deep in the left lumbar and hypochondriac regions. At the end of the fourth week, the abscess pointed in the left inguinal region. On introducing a tube into the rectum to relieve the flatulent distention of the bowels, an abscess was punctured, and a large quantity of pus with bloody mucus came away. The swelling in the inguinal regions and tympanites nearly disappeared thereupon; but pus continued to be discharged daily per rectum. The patient never recovered. The abscess refilled, and burrowed up into the inguinal region, and down under Poupart's ligament into the thigh. The patient died from phthisis consequent upon long-continued suppuration, within eleven months after the injury."

Just how speedily the inflammation may terminate in suppuration in these acute cases, it would be difficult to say. The inference is logical, that suppuration, when it occurs, occurs some considerable time before it makes itself manifest by external tumefaction. That the delay in getting the evidences of abscess is not due to absence of pus, but rather to the difficulty the pus experiences,

[1] Read before the New York Academy of Medicine, April 15, 1886.

on account of the depth of the suppurative process, in coming to the surface.

During all this time, however, the constitutional evidences of internal suppuration are more or less pronounced, and a carefully conducted examination at this stage may forestall and prevent many months of tedious suppuration with its attendant evils.

Chronicity, rather than acuteness, however, seems to be the rule with pelvic phlegmons in the male, except in cases having a traumatic origin. The affection most frequently occurs in the poorly nourished and cachectic, and in such inflammatory processes are slow and suppuration tardy. A widely diffused induration may pervade the pelvic cellular tissue months before its final breaking down into pus.

The diagnosis in such cases is often very baffling, owing partly to the inaccessibility of the parts affected, and partly to the perplexity of symptoms that arise from so many different tissues, organs, blood-vessels, and nerves being affected by the inflammation.

As bearing upon the clinical history, the following cases are submitted:

Case I.—C——, Scotchman, cloth-printer, forty years of age, was admitted to Bellevue Hospital, Ward 14, June 4, 1872, with the following history:

Always a hard-working, temperate man. Father and one brother died of phthisis. Mother died of cancer. General health prior to the attack fairly good. Eight months before, while sitting on a wet bridge fishing, fell asleep, and awoke after the lapse of an hour with a severe chill. Went immediately home and to bed. Had severe chills with high fever for seven or eight days. Excruciating pain in bowels, back, and thighs. Bowels became moderately bloated and constipated. Had darting pains through pelvis and in both testicles. Constant desire to pass water. Micturition impossible after first night. Passage of catheter caused great pain.

Had to be kept constantly under morphia or opium. Hot applications were made to loins and abdomen. About the tenth day an abscess discharged itself into rectum, perhaps a pint of pus escaping. Immediate relief experienced, which lasted three or four days. Discharge of pus from rectum then ceased. Pelvic pain returned, but not so severe as before. Fever also returned, with sweating. In less than a week the abscess burst again in the rectum, with immediate relief succeeding. Discharge of pus kept up all winter, the quantity sometimes amounting to a pint in twenty-four hours. Twice during the last two months discharge ceased for three or four days at a time. Pain in perineum, back, and abdomen immediately succeeded, accompanied with high fever.

On admission: Patient half moribund and very feeble, having lost over forty pounds in weight. Body jaundiced, and teeth and tongue covered with sordes. Abdomen moderately extended and tympanitic. Pressure over bladder produced deep gurgling in pelvic cavity. Rectal examination showed an irregular tumefaction high up in the pelvis. When counter-pressure was made over hypogastrium, excessive fetid pus escaped from rectum.

Diagnosis of pelvic abscess with septicæmia was made by Dr. McBride, House Surgeon.

Death occurred the following day.

The autopsy revealed an old abscess-cavity, the size of a small cocoanut, in upper part of pelvic cavity, reaching just above the brim, and containing perhaps a gill of offensive pus. Walls of cavity gangrenous and sloughy, but entirely shut off from peritoneal cavity by a dense layer of plastic material. No recent peritonitis. Pelvic veins filled with thrombi. An opening large enough to admit the little finger connected the abscess-cavity with the rectum. Pyæmic abscesses in liver and spleen.

Case II.—Seen in consultation with Dr. J. Grafton, Watertown, N. Y., August 19, 1873.

Mr. ——, aged thirty-two. Had been generally well up to a year ago, when he developed a severe gonorrhœa after a prolonged spree. This lasted off and on for four or five months, during which time he had a severe attack of gonorrhœal rheumatism of left hip-joint and knee.

His present trouble dated back some five months, and immediately succeeded the rheumatism. Patient was awakened from sleep by a dull pain deep in the perineum and a sensation of chilliness, although no distinct rigor occurred.

Pain became more intense, the abdomen began to bloat, and when seen by his physician the following day, there was well-marked peritonitis. This became general, and lasted nine or ten days. After its subsidence a small tumefaction was observed in the left iliac fossa. This ultimately disappeared. Some ten days later, while being lifted from bed to lounge, a sharp pain was experienced in the lumbar region, extending down into the pelvis. Pain increased greatly through the night, and the swelling reappeared in the left iliac fossa. Fluctuation being detected, a small abscess was opened without giving any relief. The following day, however, a deeper abscess burst through this opening and discharged nearly a pint of pus. The incision was now enlarged, and an oakum tent was carried down toward the floor of the pelvis. Great relief followed this, but despite every attention the abscess would fill, discharge itself through the fistulous opening, and refill.

During the summer a phlegmon formed deep in Scarpa's space. This was lanced. The finger introduced into the abscess-cavity followed the crural sheath beneath Poupart's ligament into the iliac fossa.

When I saw the patient, who had just come under Dr. Grafton's care, he was greatly emaciated and œdematous, and had well-marked waxy degeneration of the kidneys.

Two sinuses led by circuitous routes into the pelvic cavity, one through the inguinal region, and the other from the anterior crural. A large, soft catheter, introduced through the former opening, could be readily passed into the pelvis. Warm carbolized water, gently injected, caused a perceptible tumefaction on anterior wall of rectum, high up. Upon my suggestion, and with a view of establishing thorough drainage, a counter-opening was made at this point, and considerable necrosed tissue washed away. Drainage-tubes of oakum were introduced.

Improvement, both in the patient's general condition and locally, was very marked after this. An inter-current attack of nephritis caused death within the following fortnight.

Case III.—Seen in consultation with Dr. McKnight, of Brooklyn. A slight-built and delicate lad, aged seventeen, received a severe strain some six months before by being lifted by "the seat of his breeches" over a friend's head in play. Faintness, succeeded by vomiting and intense pains in back and down the thighs, followed. This pain in back and thighs continued about a month, and then, without apparent cause, the boy being in bed the while, it shifted from the back to the hypogastrium, and became distinctly throbbing in character. Paroxysmal pains shot down the sciatics and into the perineum. Defecation was invariably accompanied with great pain, and the bowels were permitted frequently to go a week without movement.

When I saw him, April 6th, in addition to the above the patient was badly cinchonized and almost absolutely deaf from quinine, which had been administered with a view of breaking up what was supposed to be a malarial or neuralgic condition. A most careful examination under nitrous oxide was now made, both externally, by rectum, and, as the boy was very thin, by conjoined manipulation, with bladder both empty and distended; but neither tumefaction, induration, or any other cause, was found to account for his excessive pain, pyrexia, and loss of flesh. Within a few days after this, while straining at stool, an abscess burst within the rectum and discharged several ounces of pus. The most marked relief followed. Pus continued to be discharged for some days, and a permanent recovery followed. In recalling this case and

the thoroughness with which the examination was made, it was rather mortifying to learn that a dense mass of indurated cellular tissue posterior to the rectum, which at the time was taken for the promontory of the sacrum, in less than a week broke down in suppuration.

CASE IV.—A cachectic and feeble old Italian was admitted to my service, Charity Hospital, June, 1883, with what was supposed to be a chronic suppurating bubo of left inguinal region.

A very unsatisfactory history of pelvic pain of two years' standing was obtained. He complained on admission of weakness, loss of flesh, and pain referred to the hypogastrium, perineum, and gluteal regions. There was partial incompetency of the sphincters.

On examination, an unhealed incision, leading into the rectum, above the internal sphincter, with a deep sinus running up into the pelvis, was found. The operation had been performed about a year previously—for what or by whom he did not know.

A vertebrated probe passed up this sinus to a depth of eight inches, and there met another probe passed through the abscess-cavity in the groin. Of this latter we could learn nothing definite except that it had been there for several months. With considerable difficulty a soft rubber catheter was passed through this opening and down into the pelvis. Injections made through this escaped by the perineal opening.

The patient refused to submit to any treatment and left the hospital. He presented himself at my office the following fall for charity. An examination revealed the upper opening closed, the perineal sinus still open. A vertebrated probe readily passed about seven inches.

CASE V.—Peter M——, aged twenty-eight, married, a porter by occupation. Always temperate, robust, and strong up to March, 1882, at which time he was suddenly seized, after some unusual exertion, with sharp pains in the right iliac fossa, which lasted thirty hours. This paroxysm terminated in a dull, heavy pain, which extended across the hypogastrium into the left iliac region, and has continued with greater or less severity up to the time of the operation.

In June 1884, he was admitted to St. Luke's Hospital, suffering from the same intense pain. Poultices were applied, but no suppuration occurred. The diagnosis of typhoid fever was there made.

In the following August, after several unsuccessful aspirations, an abscess of the right lumbar region, midway between the iliac crest and ribs, was evacuated by the late Professor James L. Little. The case was regarded by him as one of perityphlitic abscess.

At this time patient's condition was very bad. Severe pain deep in the pelvis and perineum. Darting pains through the rectum into the right testicle and down the sciatics. Priapism, with involuntary nocturnal emissions.

In December, a second abscess formed and was opened by Dr. Little. Although suffering more or less constant pain his health improved during the winter; but in March and July following, other abscesses formed in the side and over the body of the ilium. These were also opened. In August and September he had the pain and constitutional disturbance of forming abscesses, but free incisions failed in giving vent to pus.

October 5th.—Patient's health evidently failing. All the old pains have returned. A careful examination under ether was made by me, Drs. Seneca D. Powell and Henry A. Mandeville assisting.

Owing to the thickness of the abdominal walls from fat, this was very unsatisfactory. Rectal examination revealed nothing.

A localized phlegmon over the ilium, two inches below and to the front of the posterior superior spinous process, was opened and carious bone detected. This was removed by gouge and rongeur. The superficial caries led into a large abscess-cavity in the ilium, and this in turn communicated by a direct opening with the iliac fossa. The finger introduced through the bone could detect nothing abnormal within the abdomen. The carious bone being thoroughly removed, a tent of bichloridized oakum was introduced through the ilium, and the wound partially closed.

October 29th.—After great pain, referred to the hypogastrium, right iliac region, and right testicle, another abscess formed and discharged through the opening in the bone. The source of this could not be detected, and both external and rectal examinations failed to throw light on the case.

In early December another abscess formed within the pelvis, and, instead of discharging through the opening in the ilium, pointed over the crest and was evacuated at this point.

The patient's condition was now critical in the extreme. He was rapidly losing strength and flesh, and was being worn out with constant pain and suppuration. Albumen with hyaline casts appeared in his urine. It was felt that something effective ought to be done, and yet there was nothing tangible upon which to found a diagnosis beyond the fact that, at irregular intervals, abscesses in the right iliac region would form and discharge. Repeated examinations were negative in their results.

From the first the case was regarded by my assistant, Dr. H. A. Mandeville, as one of abdominal abscess of deep origin, and the carious bone as secondary to that; and hence from the first he advocated an exploratory abdominal section.

From this I at first differed, thinking the recurrent abscesses were due to the bone disease. In either case the indications clearly were to open the abdominal cavity (of course employing every antiseptic precaution), and, if possible, by stripping up the peritoneum from the right iliac fossa, to seek and remove the source of irritation.

In this opinion we were supported by Prof. R. F. Weir and Dr. H. Marion Sims, who kindly saw the case with me.

Operation.—St. Elizabeth's Hospital, February 13th, Drs. Sims, Mandeville, and C. W. Stimson assisting. An incision was made, commencing just above and posterior to the posterior-superior spinous process, and following the bone downward for a distance of five inches. The dissection was carried through the abdominal muscles and the peritoneum exposed. This I endeavored to detach from the subjacent fascia, but so firmly adherent was it that, in spite of very gentle manipulation, it tore. A flat sponge was introduced through the laceration to hold back the intestines, while with the hand a thorough exploration was made. Almost immediately a mass of adhesions were found that led to an old abscess cavity, which occupied the posterior half of the fossa, and that extended like a great sinus directly from the ilium, over the line of the pelvis and down into its cavity.

No dead bone could be detected. The sinus having been laid open, its walls, which were almost cartilaginous, were thoroughly revivified with a dull curette. The sinus through the bone was likewise curetted and some carious bone removed. Two drainage-tubes of soft rubber, eight inches long, were carried directly to the bottom of the sinus, and the whole thoroughly irrigated with a solution of bichloride of mercury, 1 to 2,000. The abdominal wound was now closed with deep and superficial sutures. The incision leading through the bone was kept open and dressed from the bottom with iodoform and bichloridized oakum. A superficial dressing of borated cotton was made over all.

The patient rallied nicely. On the third day the temperature rose to 102½°, and the pulse to 120, and there was a very slight circumscribed peritonitis. On the sixth day the patient's temperature was practically normal, and the discharge from the tubes scarcely amounted to half a drachm. After this the tubes were shortened gradually, and at the end of three weeks were entirely removed, firm granulations having filled up the cavity of the sinus.

The opening through the bone has likewise been filled

in with new tissue, and is now closed. To-night I have the pleasure of exhibiting the patient in better health than he has enjoyed for years.

Diagnosis and treatment.—The length of this article precludes any elaborate presentation of these important subjects, the object of the paper rather being to call attention to a much neglected class of cases.

It must be remembered, however, that whenever cellular tissue exists in the body, there suppurative inflammation is likely to occur. The male pelvic cavity, as the grossest dissection will show, contains a large amount of cellular tissue, and pathologically it is no exception to the rule.

Inflammation occurring here manifests itself in addition to local distress or pain, which is generally severe in character, by the usual constitutional disturbances. After tumefaction has occurred, another set of symptoms arise, which are due to pressure on sensitive nerves and organs. Recall in the histories cited how uniform have been the pain in the hypogastrium and pelvis, the excruciating pains down the sciatics and into the testes and rectum. Another feature peculiar to these abscesses is their tendency to burrow, and the very great dangers attendant thereupon. Their natural destination should be the perineum, and such doubtless would be the case, were it not that the extremely dense fibres of the levator ani and prostatic muscles, which are largely composed of firm fibrous tissue, present an almost impenetrable obstacle.

The next most natural route would seem to be the rectum, and here many of these abscesses are evacuated. Many, however, mount the pelvic cavity and appear within the abdomen, as the pelvic abscesses.

After this, their course is erratic. Most of the abscesses appearing anterior to the bladder, in the so-called *Cavum Retzii* (after the distinguished Swedish anatomist, Retzius), the prævesicular abscesses of French surgeons, are abscesses of pelvic origin (see a most interesting account of such by Leusser in Langenbeck's *Arch. für klin. Chirurgie*, No. 32, vol. 4, p. 851).

Clinically, it is important to distinguish between an inflammatory condition pure and simple—a cellulitis simplex—and the same condition after it has passed into a suppurative stage.

The presence of pus cannot be recognized at too early a period.

It is likewise necessary to distinguish between a pelvic cellulitis and general or localized peritonitis; also between this and cystitis, proctitis, and prostatitis. Rheumatism and neuralgia must be borne in mind.

Surgically, it is necessary to differentiate between abdominal abscesses, ileo-pelvic abscesses, pelvic abscesses, abscesses of the ischio-rectal fossa, and perineal abscesses.

Exceptional possibilities must be carefully considered. Hernia strangulated in the pelvic foramina; passage or impaction of renal calculi; acute inflammation of the psoas muscle; typhlitis and perityphlitis; and lastly scrofulous, malignant, tubercular, and syphilitic disease of the pelvic glands.

Treatment.—The treatment naturally resolves itself into treatment of the cellulitis before suppuration, and treatment after suppuration is established.

In the former case, rest, morphia, quinine in free doses, local refrigeration, and possibly local depletion by leeches to perineum. In employing cold in this or any other inflammatory condition about the rectum, nothing equals in efficacy and comfort, in my experience, the continuous use of cold water, which passes up and immediately returns through a double-flow blind tube. The great mistake that is often made by the inexperienced in the application of either this or the ice coil is in applying it too cold at first. The water at first should be warm, then gradually cooled until ice-water can be used, with astonishing relief. During acute inflammation frequent rectal explorations should be desisted from, as calculated to do more harm than good. After suppuration may reasonably be suspected a careful examination under anæsthesia should be made, in order that the abscess may be evacuated into the rectum at the earliest possible moment. If evidences of internal suppuration persist, and there is reason to believe the pus to be burrowing upward, an abdominal exploratory incision is obviously demanded.

If this can be made without opening the cavity of the peritoneum, it certainly should be done. The object to be attained, however, is the evacuation of the pus. We cannot always be successful in this. Adhesions will form impossible barriers at times. Mr. Tait met with failure in such a case in a male. The principle, though, is surgical and conservative.

MEMOIR OF AUSTIN FLINT, M.D., LL.D.[1]

By A. JACOBI, M.D.,

PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE.

THE life of Dr. Austin Flint, one of my most distinguished predecessors in the presidency of the New York Academy of Medicine, was singularly fortunate. We may say that now that he has passed away, and avoided the dangers incident upon any human existence, which made the Greek philosopher exclaim that nobody must be called fortunate before he died. His birth, his life, and finally his sudden and painless death are peculiarly happy.

In the year 1638 Thomas Flint emigrated from Derbyshire, England, to Concord, Mass. Thus the family, of Puritan stock, is one of the oldest of the country. Austin Flint's father, grandfather, and great-grandfather were physicians in Massachusetts. Thus both the number of ancestors, and their labors and culture, constitute what even in this our country we may claim as genuine aristocracy.

This term I do not wish to be taken in anything like its usual European meaning. The aristocracy of the continent of Europe, hundreds of years ago, was composed of the men who spent their days in idleness, robbery, and violence. Their right consisted in the strength of their swords and the elasticity of their consciences. It required the invention of powder and guns to make their castles useless, change the hitherto unprotected into dangerous adversaries, and thus render the aristocrat virtuous. This compulsory virtue changed them into willing servants of the princes, whom they obeyed, either on the battlefields or in the waiting-rooms. They and their offspring, unless they have consented to take part in the physical or intellectual labors of the world, have contributed nothing to the development of morals and culture.

This is not what we may designate aristocracy in America. Our country has the advantage of not suffering from the evil inheritance of the mediæval period. What it has grown into being, it has become by hard work both of hands and brains. That kind of aristocratic family was the one Austin Flint hailed from; in it he might well have rejoiced, though pride would never be pardonable in anything accidental and not accomplished by one's own efforts.

With such hereditary advantages he was born in Petersham, Mass., on October 20, 1812. They were followed by those resulting from a liberal education in Amherst, and in Harvard, where he graduated in medicine in 1833. Since that time, without any interruption, he has been in the practice of his profession, adding to the daily practical labors much and varied literary work, and for the last forty years constant services as a teacher of medicine in six different colleges.

In Northampton and Boston he practised three years, until he moved to Buffalo, N. Y., in 1836. Here he resided sixteen years, with the intermission of a short period in 1844, in which he taught clinical medicine in Rush Medical College, Chicago. He founded the *Buffalo Medical Journal* in 1846, and edited it through a course of ten years; he organized, in connection with Frank H. Hamilton and James P. White, the Buffalo Medical Col-

[1] Read before the New York Academy of Medicine, at the Stated Meeting, April 15, 1886.

lege, in 1847, but left Buffalo in 1852 to take charge o the chair of clinical medicine in the University of Louisville. Thence he returned to Buffalo in 1856, spent the winters of from 1858 to 1861 in New Orleans, teaching medicine and attending Charity Hospital, and settled in New York in 1859. His position as the teacher of clinical medicine in the Long Island Medical College he resigned in 1868; the same chair in the Bellevue Hospital Medical College he retained to his end. Its last Commencement took place while he lay dead in his house, and a day before he was carried to his last silent home.

As a teacher he was eminently successful. Thousands of the present practitioners of the United States were his pupils; there is no county but has those who listened to his lectures; and there is none but who gratefully remembers the breadth of his knowledge, and the systematic clearness and elegant simplicity of his diction.

Whoever has not listened to him in the lecture room has made his acquaintance by his writings. For forty years he has contributed largely and worthily to the medical literature of the country. Many of his first papers appeared in the *Buffalo Medical Journal*, which owed the high regard in which it was held mainly to his contributions. From 1848 to 1850 he published articles on diabetes, the pathology of typhoid fever, on the epidemic of cholera in Buffalo, on serous effusions into the arachnoid cavity, on pleuro-pneumonitis complicated with pericarditis, and on fifty-two cases of typhoid fever. These essays were followed, in 1852, by clinical reports on continued fever and on variations of pitch in percussion and respiratory sounds, and their application to physical diagnosis; in 1853, by clinical reports on dysentery, and on chronic pleurisy; by (1856) his physical exploration of the chest and the diagnosis of diseases affecting the respiratory organs, and (1859) his practical treatise on the diagnosis, pathology, and treatment of diseases of the heart. In 1865 he wrote his compendium of percussion and auscultation, and of the physical diagnosis of diseases affecting the lungs and heart; and finally, in 1866, his treatise on the principles and practice of medicine.

It is not necessary to enumerate his many essays and papers, before and after that time. The publications of the United States Sanitary Commission, and the better journals of the country, bear evidence of his ever increasing experience, willingness to contribute to the common stock of knowledge, and the eagerness of the journals to print his papers.

His literary reputation was deservedly a very great one. Some of his works have been translated; his treatise had an immense sale. The method and mode of his writing is characteristic and instructive; if some of the modern writers would imitate him, it would be better for them and for literature. It is apparent that for many years he wrote nothing but clinical reports and studies. They were papers replete with careful observations plainly described, with their immediate results. These were followed, when his experience grew and his judgment became matured, by monographs on special subjects. He was fifty years old, and already a celebrity, when he published a treatise on the whole subject of internal medicine. It was the work of a man who had given two dozen years and more to the study of his subjects before venturing before the profession with his great book. Let the young manufacturers of text-books of nowadays, who collate the pigeonholed pilferings from the older books of better men into a volume, and try to build up a reputation with its hoped-for pecuniary advantages, learn from Austin Flint the period of life in which a man may be expected to write a text-book for the use of either the student or the physician.

In his writings nobody ever was more straightforward and honest. What he did not know he would not state. When he felt that the latest editions of his text-book could be made more scientific and serviceable by elaborating the pathological anatomy of his themes, he selected William H. Welch to write the required chapters, and gave him full credit for his work in his preface. As he was modest in his writings, so he was in discussions. He was always as anxious to be taught as capable to instruct. Some may remember a discussion on pepsin in the American Medical Association, many years ago. When, the next day, he received a note from one of those present, in which the necessity was urged to add muriatic acid to the doses of pepsin he had advised, he called in person to express his appreciation of the, then new, suggestion and the letter containing it. There was, however, one thing he was jealous of, viz., the honor of his country. When, in a discussion, he once complained of the oblivion of Carr's name in connection with the causation of the crepitant râle, and the pre-eminence attributed to foreign authors in regard to the explanation of respiratory sounds, he was rejoiced and proud when he was shown the page on which Winterich gives full credit to the American practitioner. Vanity and exalted opinion of himself were not his faults. He would never have accepted the eulogistic exaggeration proclaimed in a recent obituary, in which it is claimed that nobody in this century has done so much as he, or more than he, for the diseases of the respiratory organs. He would have urged that friendship and esteem must never go so far as to obscure the names of Laennec, the Frenchman, Skoda, the Austrian, and Stokes, the Briton.

Still, he was original in many things. His discussions on pitch and resonance will always be read with pleasure and profit. Though we owe him no great discoveries, we and our successors shall always admire his clear way of dealing with known facts and new observations, and of popularizing for the medical mind the latest evolutions of medical thought and the most mature fruit of scientific research.

The peculiar qualities displayed by Austin Flint the writer he would also exhibit as a teacher, both didactic and clinical. He taught general medicine, and preferred to study, and give particular attention to, the diseases of the systems of respiration and circulation. He was clear. painstaking, and accurate. He occupied a chair in which there are, to the average student, no amazing features or feats. The student who applauds when a bone is sawed through, or a spouting artery is caught by a dexterous hand, or the actual cautery sends fumes and odor through the amphitheatre, is quite apt to gaze with sleepy indifference at the master whose lips utter the finest points of a difficult diagnosis, or whose brain is exercised over the greatest intricacies of pathological physiology. In the teachings and the daily work of the practitioner there is rarely anything surprising, amazing, or brilliant. In spite of that, it did not take long for Austin Flint to make a great and ever-increasing reputation as a teacher. Let our young men never forget, and let them learn from the example of the illustrious dead teacher, that a good preliminary education, systematic work, earnestness, and solidity are the corner-stones on which alone a teacher and an author can build up a name worthy to be enjoyed and capable of being handed down to posterity. What Flint's importance as a teacher has been, and will be, can be best proven by his thousands of pupils. Still, even as fortunate and successful a man as he was has his disappointments and curtailments. One ambition of his life was never fulfilled.

Look at this fact: At the meeting of the American Medical Convention, since called Association, at New York, on May 5, 1846, he was appointed on a committee to report on a resolution offered by Dr. Isaac Hays, for a uniform and elevated standard of requirements for the degree of M.D. in all the medical schools of the United States. The report is signed by R. W. Haxall, Chairman, and can be found on pp. 63–77 of the "Proceedings of the National Medical Conventions, held in New York, May, 1846, and in Philadelphia, 1847" (Phil., 1847). The very first of the ten resolutions embodied in that report is this: "That it be recommended to all the colleges to extend the period employed in lec-

turing from four to six months." And it is true what a late number of a journal[1] says: "That that report is still to-day a most interesting, applicable, and valuable document." But alas! the slowness of spontaneous evolution, and the predominance of circumstances, and the weight of impediments are such as to cripple even a strong man like Austin Flint, who, though his life was spared long, never saw the hopes of his younger years fulfilled.

His successes as an author and a teacher were equalled by those accomplished in his consulting practice. In those special branches to which he had given so much of his time and attention, his counsel was frequently requested. No matter whether he had anything new to say, or had only to confirm the diagnosis or fortify the position of the practitioner, everybody here knows that he was always kind, mild, and modest. There is nobody here but has often either admired his superior knowledge and experience, or blessed his pleasing demeanor and generous words. He was an eminently just man and, for that reason, could afford to be mild and generous.

These qualities he exhibited in a period which has been a critical one in the development of the last few years in the life of the medical profession. During the first successful year of preparations for the International Congress he was true to the *bona fides* entered upon in Copenhagen. From the very beginning he was, like all the greatest and wisest men in the profession of both this country and Europe, earnest in excluding medico-political differences and difficulties from the organization of the Congress. In regard to the latter there was to him no Code question at all. I have good reason to believe that the demoralization and disorder in the ranks of the profession, growing out of these differences, caused him the greatest possible pain, and many of the most unhappy days of his life. It is a great satisfaction, however, to know that everybody wished to distinguish and honor the man who had served the profession half a century, to his credit and to the advantage of his fellows.

In regard to important moral and ethical questions, it is of graver import to study a man's own words than to listen to what others would wish us to believe; and when that man is Austin Flint, that mode of inquiry is still more indicated. Not that the Code question is so grave as some would have it. Indeed, it has begun already to have a historical interest only.

But some time ago everybody took sides in regard to the Code question. So did you, so did I, so did Austin Flint. But to belong to a party does not mean to be an offensive partisan. And if ever a party man—so I believe—was impartial, that man was, or tried to be, Austin Flint, whom we honor as much for his words as his actions. When a man works himself up into celebrity, his memory must serve the surviving as did his life. His opinions ought to be learned from his own papers published in the *New York Journal*.[2] Read them as if he were still among you. He is among you. For those who have lived a life worth living do not die. I am willing to abide by the platform laid out in those essays. They contain the same thoughts expressed by your presiding officer in an address delivered from this place on October 1, 1885. Two days afterward that address appeared in print. Two days after its publication I received from the great and good man who is now gone a letter which I shall be proud of preserving as a legacy. I hold in my hand this note of Austin Flint's, which begins with the words: "I have read your address with pleasure"—and finishes with these: "How beautiful, lovely, and salutary it is to promote peace, harmony, and brotherhood."

On the evening of his inauguration as President of the Academy, in 1871, his predecessor, one of the most illustrious types of American erudition and versatility, Edmund Peaslee, had a right to say to him: "We have always found you the high-minded and sympathetic man, and the genial gentleman, as well as the finished scholar, the distinguished author, and the skilful practitioner."

All that he proved during his presidential term which extended over the two years, from 1871 to 1873. The routine work performed during that time did not differ much from that of many other years or terms, but some of the papers were of unusual excellence. It would be improper to go into the merits of the essays read and discussed. They were by Allen S. Church, Charles A. Leale, William Detmold, Alfred A. Loomis, Samuel S. Purple, Charles P. Russell, Gouverneur M. Smith, J. Lewis Smith, Frank P. Foster, Gurdon Buck, Ernst Krackowizer, J. C. Dalton, Lewis A. Sayre, E. C. Seguin, Salvatore Caro, and Allan McLane Hamilton.

Flint's contributions to the scientific work of the Academy were not numerous, but their character was high. Amongst others, "The Management of Pulmonary Tuberculosis, with Special Reference to the Employment of Alcoholic Stimulants," June 3, 1863 ("Trans.," ii., p. 353); "Discussion of Dr. Leaming's Paper on Pleuritis," March 17, 1870 ("Bulletin," iv., p. 48); "Discussion on the Etiology and Pathology of Bright's Disease," October 1, 1862 ("Bulletin," vol. ii., p. 1); "Discussion on Dr. Loomis' Paper on Typhus Fever," February 15, 1865 ("Bulletin," ii., p. 388); "Last Illness of Valentine Mott, M.D.," May 3, 1865 ("Bulletin," ii., p. 434), will always be referred to with sincere pleasure.

His membership in the Academy ceased a few weeks before March 13th, on which he breathed his last. You remember the universal reluctance on the part of those present to accept his resignation, and the silence with which the remarks of the presiding officer were listened to. *Malevolence only could misconstrue, and has misconstrued, into their opposite, his words of appreciation and regret.* There is one great gratification even in that resignation of his. His good will toward the Academy is best exhibited by his staying as long as he did, under rather peculiar circumstances, and moreover we shall know, by the gift or his library which he bequeathed to the Academy, that the latter was dear to his heart. For the Academy not to speak words of praise and remembrance in behalf of his memory, in this hall which he graced and in which he taught, in spite of suggestions and even demands to the contrary, of a personal character; not to keep his memory green among us, is an impossibility. As it is for us, so for the medical men of the country. His name and reputation form part of the history of our profession, and this Academy means to honor its dead who have gone into history.

In listening to or reading the eulogies of the dead, I have often been struck with the well-meant, but still obtrusive, exaggerations of their characters and services. It then appeared to me that the writer buried the memory of the friend under an oppressive weight of high-strung flatteries. It reminded me of the manner in which an inconvenient beggar is forever cast aside by buying him off with a large sum. That plan may do well enough for the mediocre, who never excelled, and therefore is extolled for once. But if there be any among us who rise above mediocrity and average, or those even whose intellectual stature fills a large space between the soil on which their feet walk, and the skies to which their brows are turned, let them, while they live, harbor the ambition, or when they are dead, enjoy the honor of serving mankind even after and through their very deaths. To accomplish that, let the truth be stated, and the truth only. Thus it was the truth only I aimed at in this brief sketch. As its object was great, I found it an easy task to omit the trite platitudes of a commonplace eulogy.

Austin Flint had great advantages, and developed and utilized them for the benefit of the many. Born with an enviable inheritance, he enjoyed a thorough general and special education. He had great physical endurance and uniform health, an imposing presence, pleasant manners, and an equable temperament. With physical

[1] Journ. of the Am. Med. Assn., March 27th.
[2] April, 1883. Also in his Presidential Address of 1884.

and intellectual powers he combined indefatigable love of work, which he performed systematically and energetically. He was a thoroughly modest man, who knew how difficult it is to master the depths of knowledge; thus he had an unusual degree of common sense, which limits aspirations and aims. Thus he became thorough in what he undertook to practise and to teach. Thus he was successful in practice and enjoyed the confidence of both the profession and public. As a teacher he is remembered by thousands; his pupils loved him and his colleagues honored him. His writings obtained for him a national and international reputation. There was no place of honor in the possession of the profession of the city, State, or country, which he has not filled. The profession of Europe was anxious to show its respect for him. Thus he lived and worked to an advanced age, disturbed by but few symptoms of evanescing powers, and when the time came he ceased to labor and live on the very same day.

As a profession, let us hope that we shall have many like him.

REMINISCENCES OF PROFESSOR AUSTIN FLINT, M.D., LL.D.[1]

By J. LEWIS SMITH, M.D.,
NEW YORK.

In 1836, Professor Flint, in his twenty-fifth year, and three years a graduate in medicine, commenced the practice of his profession in Buffalo, without acquaintances and with no reputation. In a young and bustling city, with few facilities for study and improvement in medicine, he possessed the qualities which enabled him to create the opportunities which he needed, and to make in time the city of his residence one of the medical centres. Buffalo, at that time without a medical organization worthy of the name, with physicians intent on acquiring and retaining a practice, having no regard for the higher demands of the profession, did indeed seem an uncongenial and unsuitable place for Professor Flint, whose highest ambition was to improve in medical knowledge, and whose life-long endeavor was to make discoveries in the nature and treatment of diseases which would benefit the profession and the world.

Among the first diseases investigated by Professor Flint after his settlement in Buffalo were those due to marsh miasm, and it was not long before he had made a sufficient number of observations to enable him to publish some novel but correct views in reference to their treatment. In 1841, forty-five years ago, the *American Journal of the Medical Sciences* published from his pen a statistical paper, designed to show that intermittent fever, which he had treated among the troops stationed at Buffalo, required no preparatory treatment by mercurials or otherwise before the use of quinine, and that quinine would control the disease more certainly and with safety, if given in the intervals of the paroxysms in as large doses as ten or fifteen grains. Both these opinions, then new to the profession, and contrary to the usual practice, attracted attention, since they were supported by statistics; and, as we all know, they are now accepted as true, and the present mode of treating the disease is the same as he recommended.

In the same year he published a paper on dyspepsia as related to the state of the mind. From this time, during his entire life, he was a frequent contributor to the medical journals. Among his early papers, that to which I think he attached the most importance bore the title, "The Pathological Relations of the Medulla Spinalis;" it was published in the April number of the *American Journal of the Medical Sciences*, in 1844. This paper was also statistical, the views expressed in it being derived from an analysis of fifty-eight cases. The opinions contained in this article, as well as the instruction upon the same subject, which in former years he never failed to give to each class of students, have been of great value to the profession. Patients in a depressed state of system, and especially the anæmic, frequently have pain and tenderness at some point upon the lateral or anterior aspect of the trunk, and pressure along that part of the spine where the nerves originate which supply the affected part increases the pain, and is therefore a safe and certain means of diagnosis. When pressure upon the spine intensifies the pain, the latter is neuralgic, and not inflammatory; and yet the mistake is often made of diagnosticating an inflammation, and treating the patient accordingly, when the simple test mentioned above would have corrected the diagnosis.

Professor Flint recently stated to the writer that many years after the appearance of his paper in the *American Journal of the Medical Sciences*, he was still more deeply impressed with the importance of the subject upon which he wrote, when in accompanying the most distinguished clinical teacher in Europe through the wards of a Parisian hospital, he was able to correct, by the simple tests with which he was familiar, the diagnostic error of the professor, who had stated that one of the patients whom they were examining had "*péritonite.*"

My acquaintance with Professor Flint commenced in 1851, when a medical student in the Buffalo Medical School. The *Buffalo Medical Journal*, established and conducted by him, was then in its fifth year. From the ability apparent in its editorials and original articles, many of them from his pen, it was widely taken in Central and Western New York, in the adjoining States, and in Canada, and it no doubt aided very much in drawing students to the Buffalo Medical College, then in its fourth year, and in which he held the Professorship of Theory and Practice.

At this time he read his lectures, and they were listened to with interest and always by the entire class. It was not, however, till the following year (1852), when, as an advanced student, I was appointed one of the house staff of the Hospital of the Sisters of Charity, that I became more fully acquainted with the subject of this sketch. No one more highly appreciated hospital advantages as affording the opportunity for medical improvement than he at this time, and indeed through his whole life. He had previously made use to the best advantage of the clinical opportunities which the old almshouse afforded, and now he had the privilege of studying diseases among a better class of patients, and with better surroundings. During my stay in the hospital every case in the service of Professor Flint that possessed any interest was recorded in his note book, and his thorough examination of patients, in order that the notes might be complete, necessitated a prolonged stay on his part at each visit in the hospital.

The late Professor Bennett, of Edinburgh, said that "a large metropolitan practice is the bane of the profession," since it prevents the proper examination of cases, and the investigation of subjects which are of interest to the profession. Professor Flint appeared to have the same belief, for he seemed annoyed and disappointed when professional engagements in the city prevented his daily visit to the hospital, or compelled a shortening of his stay there. It was apparently his endeavor that each day should add something to his stock of medical knowledge, and to a better understanding of the diseases which he met in the hospital.

It may not be improper to state that at this time some of the more prominent physicians of Buffalo, who had not participated in the founding of the college, were not in sympathy with it. This hostile element in the profession was represented by its ablest men in the board of visiting physicians of the hospital. The college, of course, sustained little injury, for it had a strong faculty, consisting of such men as John C. Dalton, Frank H. Hamilton, George Hadley, and James P. White, but the consciousness of living and working in an unfriendly atmosphere would have been dispiriting to

[1] Read at the memorial meeting, Carnegie Laboratory, April 19, 1886.

one less occupied in medical studies than Professor Flint. The ill-feeling manifested toward the college, and those connected with it, was apparently ignored by him.

During my stay in the hospital, among the subjects which occupied the attention of Professor Flint was what he designated "Variations of Pitch in Percussion and Respiratory Sounds," and his pocket note-book, in which he recorded his observations, was his constant companion. He contemplated sending an essay relating to this subject to the committee on prizes of the American Medical Association, at its next session, and the interest which he manifested in obtaining the material for the paper seemed to increase from day to day, and was noticed by all who followed him through the wards, and who were often asked to verify his observations. No one who saw the interest which he manifested in this subject, and his careful examination of cases, was surprised when the announcement came from a distant city, and appeared in the daily papers, that the annual prize of the United States Medical Association had been awarded to Austin Flint, of Buffalo.

Another subject which engaged his attention was the differentiation of typhus and typhoid fevers. A considerable number of Irish immigrants were admitted into the hospital having a malignant form of typhus fever, which they had contracted on shipboard, and when they reached Buffalo, on their westward journey, they were too sick to go farther. I have never met in this city, in a practice of thirty years, so severe and fatal a form of this disease, in which most of the patients presented a mottling of the surface like that of measles. Although sisters and nurses were stricken with it, some of them dying, each case was thoroughly examined, and the symptoms, and in fatal cases the lesions, were recorded. In due time a statistical paper containing the results of these examinations appeared from the pen of Professor Flint.

To me it was evident that the example of a life so devoted to the study of diseases had a very salutary effect upon the students of the college, many of whom, having no previous knowledge of medicine except what they had learned from the country practitioner and his obsolete books, and having chosen the profession of medicine simply as a means of livelihood, as one would learn a trade, appreciated for the first time the dignity and importance of the calling upon which they had entered, and saw that it merited the consecration of the entire life to its study and practice.

The life of Professor Flint during the thirty years which have elapsed since the period of which I have been writing is known to the profession. That he became the most prominent physician in America, and was honored throughout Great Britain as no other American physician has been, was due to his life-long and uninterrupted study of diseases. Nothing that arose in politics, or church, or society, diverted him from it. His investigation of any disease or subject in medicine which engaged his attention was thorough, and while he treated with proper consideration the views of others, and listened to suggestions from any source, even from students, the information on which he most relied he obtained at the bedside; and he did not express a positive opinion until he had made so many observations that he was certain of its correctness. Therefore no pupil of Hippocrates had greater faith in the teachings of the great master than those who were brought into intimate relation with Professor Flint had in his. Whenever he made a positive statement in regard to any medical subject, those acquainted with him knew that it was true, since it was based on a thorough investigation. In matters of doubt, he always gave prominence to facts which conflicted with theories which he believed to be true.

The success of Professor Flint in his profession seems to me to have been largely due to his practice of taking and preserving notes of cases at the bedside, which he began to do soon after he commenced the practice of medicine, and continued to do for many years, and I think, more or less, till the close of his life. By recording the history and symptoms of a case he made a more thorough examination of the patient, and in time he obtained an amount of statistics which were of the utmost value to him in his writings. Very few discoveries which threw light on the nature of diseases, or were likely to be beneficial in their treatment, escaped his notice. Only a few days before his death he questioned the writer in reference to intubation of the larynx in the treatment of croup, so successfully performed by Dr. O'Dwyer in the New York Foundling Asylum; and at an age when most physicians think of retiring from the active duties of life he continued to devote half an hour each day to the study of German, in order that he might read German medical literature with more facility.

The Sydenham of the nineteenth century is taken from us, but his great work, his "Treatise on the Principles and Practice of Medicine," the revision of which was his last professional labor, remains with us. No book has had a more salutary effect on the medical profession in America than this, for while it is extensively read by physicians in the cities, as well as in country towns, it contains the most recent opinions which have been established by clinical observations and experiments, while the treatment which it recommends is in a high degree conservative, and is that which is accepted by the most skilful and experienced practitioners. The writings of the great teachers in our profession have sometimes, as we know, done harm, more, perhaps, than benefit, like those of Broussais; and even in the writings of so recent and practical a physician as Trousseau there are passages which we now wish had never been penned; but in the treatise of Professor Flint, so painstaking and thorough was he in the investigation of any subject on which he wrote, that, in my opinion, very few sentences can be found in the eleven hundred pages that do not possess enduring worth.

I recently heard him say of the "System of Surgery," written by his intimate friend, the late Professor Gross, that even if its modes of treatment should become obsolete, it would always be valuable as showing the status of surgery in the nineteenth century. A similar remark might be made of Flint's treatise, that it will always possess value as showing the state of medicine in the last half of the nineteenth century, as that of Sir Thomas Watson does in the first half, but this is too low an estimate of so valuable a book. No one can read Flint's treatise without recognizing in it an enduring basis, so that with the additions made to it, from time to time, of discoveries, as they occur in medicine, it will probably continue to be one of the text-books consulted for information and guidance long after the present generation have passed away.

RABIES AND MUZZLES.—M. Gibier writes to the Académie de Médecine that there has not been seen a single case of rabies for three years at the Imperial Veterinary School of Berlin, although there are as many dogs in Berlin as elsewhere and they are always muzzled. During two weeks in November nineteen dogs suffering from rabies were brought to the veterinary school of Lyons, a city where the practice of muzzling dogs is not in vogue. The *Lyon Médical* observes that this does not bear out the assertion of some fanatical cynophiles that the wearing of muzzles is the cause of rabies.

BACTERIOTHERAPY.—Dr. Salama reports another case of advanced pulmonary phthisis treated according to Cantani's method, by inhalations of bacterium termo. Within five days an improvement was noted, the fever was less pronounced, and the expectoration was diminished in quantity, and contained a smaller number of tubercle bacilli. In two weeks the bacilli had wholly disappeared from the sputa, and the patient began to increase in weight and in general health.

REMARKS ON LATERAL CURVATURE, WITH SPECIAL REFERENCE TO ITS OCCURRENCE IN CHILDREN.[1]

By SAMUEL KETCH, M.D.,

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In the whole range of that department of medicine now specialized as Orthopædic Surgery there is no subject which has attracted so much attention from those engaged in the practice of it as has the study of the problems connected with rotary lateral curvature of the spine. Much has been written in defence of the various theories which have been advanced at different times concerning its etiology, pathology, and treatment, and yet to-day it remains as mysterious in its origin, as complex in its manifestations, and as resistant to treatment as ever. It is but natural, therefore, that in the study of this perplexing disease many ideas which have been advanced should have been received, then rejected, and for the time forgotten, until again presented in a newer garb and made prominent by some unusually zealous advocate. In this way many truths have been transmitted, these being the crystallization, so to speak, of the various theories which have been held from time to time, and in the same way errors have been perpetuated, and of these none has been more commented on than puberty in its relation as a causative agent to the disease in question.

It is not the object of the present paper to discuss the whole subject of rotary lateral curvature of the spine, but believing that the isolated study of certain points connected with it will do much to place our collective knowledge on a surer and more scientific basis, it will be the aim here only to investigate the relations of age and sex to this deformity, and thus, if possible, arrive at conclusions, supported by statistics, concerning the period of life at which we may first look for its manifestations. In watching the progress of a case of rotary lateral curvature one cannot fail to be impressed by the very slow, but nevertheless constant and progressive character of the disease. Its insidious nature, both in onset and course, are among its most striking characteristics, and it is against this element of progression that we have mostly to contend. Whatever the primary cause of the disease may be, it must be something which is remote in its origin and constant in its action, and what are ordinarily described as causes are frequently only effects of it. Thus there must be something which acts long before these effects are noticed, and we must look beyond these to find the causation of an idiopathic rotary lateral curvature. Whilst we fully recognize the difficulty of obtaining pathological evidences early in the disease, owing to the fact that it is not one which ends in death *per se*, we believe that the study of analogous deformities in other parts of the body is beginning to show us the right path.

The formidable deformity which most cases of rotary lateral curvature present to us when first seen, precludes the possibility of a rapid development of the disease, months and years being occupied in its advance. Of the so-called cases of "pernicious" or rapid lateral curvatures, I have seen no examples, and when they occur I am sure they are connected with acute coincident troubles. Yet, as will hereafter be shown, the mass of authorities speak of the disease as being for the greater part connected with a certain period of life, namely, *the age of puberty*. That the cases most frequently present themselves to us at this age there can be no reasonable doubt, but the explanation of this fact can be made apparent in many ways. On close questioning, the histories of most of the cases I have developed show that the parents or attendants have noticed something peculiar about the patient for a long time, this peculiarity being shown either by a slight irregularity of form or of the position of the patient in sitting or standing. This, however, on account of the painless character of the affection, has not given rise to anxiety, or been thought of sufficient importance to demand more than passing attention, either being entirely ignored or more often ascribed to habit. Arrived at puberty, however, when the question of form and dress becomes a matter of greater importance, especially in females, in whom the majority of cases occur, the patients are subjected to a more rigorous examination. This at once reveals the presence of a curvature, and usually of a character far advanced. Being discovered at this time it has been assumed that there must be a causative connection between this epoch and the disease. While we cannot deny that the conditions at this time are most favorable to the increase of a curvature, as indeed they are of any pathological condition which may be present in a latent form, and which may be well exemplified, for instance, by the apparently sudden invasion of phthisis at this period, it does not follow that this is the time of the origin of the trouble, but would rather tend to prove that the general efflorescence was the means of bringing the disease into more active participation. It has been my experience to see very few cases of lateral curvature at this age where the symptoms would indicate that they were of recent origin, and where they occurred the curves were mostly of the character termed functional, due to relaxation of the long spinal muscles, rather than a typical rotatory curvature. Thus it becomes a matter of great importance, in determining the time of origin in rotary lateral curvature, that the first appearance of the symptoms should be carefully ascertained, this being our criterion, rather than the age at which the curvature is first discovered. It cannot have failed, in this connection, to have struck those familiar with this class of cases, what a large rôle the dressmaker plays in their discovery. It is among the most frequent answers given to my inquiry as to the duration of the trouble, to be told, "Only a few weeks," and on asking for the first symptoms noticed, to be told that the dressmaker had called attention to the high shoulder and prominent hip.

Another remarkable thing is the complacency with which the disease itself is usually regarded by the parents, a fatal idea prevailing that the patient will "grow out of it," and which is not uncommon in regard to certain deformities where the element of pain is either very slight or totally absent. Should the disease have been attended with the pain consequent on an inflammatory lesion of the spine, such as occurs in Pott's disease, the many cases of terrible deformity seen in lateral curvature would probably occur less often as a reproach to the orthopædic surgeon. In the painless and insidious character of the affection lies another obstacle to the early discovery of the disease, and in these elements are comprised the greatest danger to the patient. The very earliest indications of the disease, namely, those which are shown by some peculiarity of posture, are the ones which, being ascribed to habit, are undoubtedly the efforts of nature to equalize the forces acting on the spine in order to preserve the integrity of its curves, and accomplished through the action of its muscles. Here the patient endeavors to place himself in that position where it is most convenient for their perverted action; but although, like the reflex muscular spasm of joint disease, it is in a measure protective, it is so to the ultimate disadvantage of the spinal column, unless relieved by suitable treatment. This habit, which has been assigned a prominent etiological position, is in reality a result of the disease, and not a cause of it, and I doubt exceedingly whether any habit, however long continued, will, unaided by other factors, do more than result in a functional non-rotary curvature. The proper appreciation of these early symptoms, and an immediate examination of the spine would, at this period, undoubtedly give indi-

[1] Read before the Orthopædic Section of the Academy of Medicine, January 29, 1886.

cations of danger; and as in joint and Pott's disease, give the surgeon the best opportunity for checking its further progress.

For the past eight years my attention has been called to the occurrence of many cases of lateral curvature in children presenting themselves at the New York Orthopædic Dispensary, and in most of them I found all the symptoms of advanced scoliosis. The histories of these cases, as a rule, are negative. Nothing irregular has occurred at birth; hereditary histories, with a few exceptions, showed no especial peculiarities of form or of deformities in parents or relatives; the patients have generally been healthy children, and at time of examination were in good general condition. Various causes, as stated by parents, were assigned, these being for the greater number unknown, and in others were attributed to accidents or illness. The local symptoms referable to the deformity were identical with those observed in adolescent cases. They had the prominent scapula, the protuberant hip, and the well-marked rotation of the vertebræ observed at a later period of life.

In none of the special works on lateral curvature of the spine which I have been able to consult do I find more than the scantiest mention made of this disease occurring in childhood, and although cases not infrequently come under the notice of the orthopædic surgeon, they would seem rather to be regarded as rarities than as of frequent occurrence, or as constituting a large and important class of these cases. Thus, Adams, in his "Lectures on Curvature of the Spine," states: "But as to the age at which severe cases of lateral curvature most frequently commence, I have no hesitation in stating that, if *we omit those* which occur in infancy and early childhood, say before five years of age, which are generally of an hereditary character, the next class—a very numerous one—are those which most frequently commence between the ages of seven and twelve years. These cases have also, not uncommonly, a history of hereditary tendency, but in many instances this cannot be traced, and the constitutional cause *seems* to consist in a strumous diathesis. Consumption is very frequently to be traced in the family history, and the death of the mother by this disease is of common occurrence. Whether the cases included in this class are numerically equal to, or exceed those in the next class to which I shall allude, viz., such as occur between the ages of twelve and sixteen years, I am unable to say from statistical data; but, speaking from private practice, I think they are at least as frequent, if not more so. Still keeping below the age at which stiff stays are commonly worn, or tight-lacing indulged in, we have the class of cases of lateral curvature in quickly growing girls between the ages of twelve and sixteen years. *This is assumed to be the typical and popular class of cases by the great majority of authors on lateral curvature.*"

Alexander Shaw, in his article on "Lateral Curvature of the Spine," published in Holme's "System of Surgery," says: "Lateral curvature is incident to youth. Commencing insidiously, without warning from bad health, it can only be stated generally that the first appearance of it may be looked for at about ten or fourteen years of age." And again: "The age at which the deformity commences coincides with that at which a notable change takes place both in the physical and moral constitution of a female."

Bauer, in his work on "Orthopædic Surgery," 1868, speaking of lateral curvature, remarks: "Scoliosis originates most usually at the time of puberty, and in young ladies whose sexual development is protracted; whose menstruation is either imperfect or has not yet made its appearance; whose condition is feeble from rapid growth and confinement, and whose spine is endowed with an unusual degree of flexibility." Furthermore he says: "In summing up these facts, and in excluding from consideration traumatic and dyscrasic causes, we are reduced to a few points, which proves that *scoliosis bears a close connection to a certain age, to the female sex, its evolution, and a certain general condition of the system and the spine.*"

Davis, in writing on the subject of "Conservative Surgery," 1867, says: "There are some facts in the preceding pages that have not been fully considered, and others that have not even been noticed by writers upon this subject, which we think are worthy of attention. We refer particularly to facts in connection with the common form of lateral curvature, commencing about the period of puberty, always, we believe, in connection with it. In the first place, lateral curvature of any form can almost be said to be a deformity confined exclusively to females. The relative number is so great as to render us unable to make any approximation to the proportion, and when it does occur in males it is attributable either to some mechanical cause or to some defect in the nervous system. Therefore, we may say that lateral curvature is a disease peculiar to females. We have said the period of its development is at puberty."

Brodhurst ("Lectures on Orthopædic Surgery," 1865), states that "lateral curvature is the most common form of spinal curvature. It occurs more frequently in the female than in the male sex; it seldom commences after the age of puberty, and it does not commonly occur as a primary affection."

Noble Smith ("The Surgery of Deformities," 1882) says: "Lateral curvature commences most frequently at about the period of puberty, between the tenth and sixteenth years of age, but it frequently occurs at later or earlier periods of life."

Neither in his work ("Orthopædic Surgery," etc., 1879,) nor in his "Spine and Spinal Diseases," does Dr. Sayre make any special reference to this point.

Taylor ("The Pathology and Treatment of Lateral Curvature of the Spine," 1868) remarks: "It is at the age of purberty when the legitimate lateral curvature is formed." He says, furthermore, in speaking of treatment: "It will be remembered that we found that the most common form of lateral curvature occurs only at a certain period of existence; that this period embraces about three years, more or less, about the age of puberty; commencing a year or two before, and the liability continuing not later than the sixteenth year, and often ending much earlier, after which time the formation of the lateral curvature is impossible."

Shaffer, in "A Lecture on Lateral Curvature of the Spine," 1881, states as follows: "It is known, for instance, that lateral curvature develops most frequently in females between the ages of twelve and eighteen years; that it presents as a deformity involving the right side more frequently than the left, and that a peculiar nervous state, called hysterical or emotional, almost always accompanies its development. But the relation of age to this particular lesion is not at all peculiar—almost all chronic diseases have a similar history in this regard; poliomyelitis is rarely anything else than a disease of infancy, joint and spinal diseases are typical lesions of childhood, and lateral curvature develops much more frequently in children and in boys than is generally supposed—with sufficient frequency, anyway, to warrant us in saying that its etiology has nothing to do with either age or sex. It is fair, however, to state that the conditions that finally produce lateral curvature are more likely to exist in girls who are just approaching or who have just passed puberty; but there are many conditions present, just at this particular time, which may have no direct relation either to the sexual development or to the strictly physiological processes then occurring. If typical lateral curvature can exist and progress in babies of six months, or in boys of eight years, or in young men of eighteen, we must take a much broader etiological view than has heretotore been held.

M. Eulenberg ("Die seitlichen Rückgrats-Verkrümmungen"), 1876, Berlin, has given statistics regarding

the age at which scoliosis originates, his researches covering 1,000 cases. The results are as follows:

	Cases.		Per cent.
Before the second year	5	=	0.50
Between the second and third year	21	=	2.10
" " third and fourth year	9	=	0.90
" " fourth and fifth year	10	=	1.00
" " fifth and sixth year	33	=	3.30
" " sixth and seventh year	216	=	21.60
" " seventh and tenth year	564	=	56.40
" " tenth and fourteenth year	107	=	10.70
" " fourteenth and twentieth year.	28	=	2.80
" " twentieth and thirtieth year	7	=	0.70

He also gives the results of an analysis of 500 cases of rachitis scoliosis, as follows:

	Cases.		Per cent.
From birth to the first year	58	=	11.60
Between the first and second year	272	=	54.40
" " second and third year	124	=	24.08
" " third and fourth year	23	=	4.06
" " fourth and fifth year	16	=	3.02
" " fifth and sixth year	7	=	1.04

Eulenberg regards congenital scoliosis as of the rarest occurrence, only having been noticed in connection with congenital rachitis (Malgaigne) or anenkephalics (Depaul). On the contrary, he considers heredity as a marked factor, and that in at least twenty-five per cent., and possibly more, of the cases it is due to this cause. Hueter in his "Gelenkrankheiten," Leipzig, 1877, says: "The disease occurs most frequently in females, and seldom happens before the sixth year. The greatest number of scolioses originate from the sixth to the tenth year, although it is not unusual for them to occur between the tenth and fifteenth year. They rarely originate in the latter years of growth, those occurring at this period having an entirely different etiology.

Vogt, in the "Moderne Orthopädik," 1883, speaks of the disease, when occurring in children, of being principally rachitic in origin.

Dubrueil simply remarks, in his "Eléments d'Orthopédie," 1882, that it is generally toward the age of twelve that scoliosis usually develops.

De Saint-Germain ("Chirurgie Orthopédique") remarks: "It is usually the mother who first notices that her daughter, aged from ten to fourteen years, has one shoulder prominent.

Enough authorities have been quoted in the preceding pages to show the almost universal consensus of opinion regarding puberty as a most important etiological factor, and as the most frequent time for the occurrence of lateral curvature. The exceptions to this have been found in the writings of Adams, Eulenberg, Hueter, and Shaffer.

In order to arrive at proper conclusions concerning the age at which lateral curvature of the spine is most frequently first observed, I have, with the valuable assistance of Dr. Thomas L. Stedman, collected 229 cases, taken from the records of the New York Orthopædic Dispensary, and representing those applying for relief during the years 1878 to 1885, inclusive. The cases selected are only those where the typical symptom of rotation was present. Before giving the results of the analysis made of these cases, I wish to explain that I have divided them into three classes.

1. Those where the deformity was first observed from birth to the twelfth year, or the age of childhood.

2. Those where the deformity was first observed from the twelfth to the eighteenth year, or the age of puberty.

3. Those where the deformity was first observed from the eighteenth year and upward, or the age of complete development.

Of the 229 cases analyzed, 189 occurred in females and 40 in males. The youngest case observed was two weeks old, the oldest, sixty years.

During the first period, or age of childhood, the deformity occurred in 120 cases. Of these 120 cases, 42 occurred in the first seven years of existence; 26 cases being in females and 16 in males. From the seventh to the twelfth year there occurred 78 cases, of which 64 were in females and 14 in males; the total per cent. of cases in this period to the whole number being about fifty-two. During the second period, that of puberty, 94 cases were recorded, 80 occurring in females and 14 in males, being about forty-one per cent. of all the cases collected. In the third period, from eighteen years and upward, 9 cases occurred, 6 in females and 3 in males, or about three and a half per cent.

In 6 cases it has not been stated at what age the deformity was first observed, all of these occurring in females, and constituting about two and a half per cent.

To recapitulate briefly:

	Cases.		Per cent.
During first period	120	=	52
" second "	94	=	41
" third "	9	=	3½
Age not stated	6	=	2½

The whole proportion of females to males was about four and one-half to one.

I wish to call attention to the fact that in analyzing these cases I have been particular to ascertain the age at which the curvature was first observed, and not, as has been frequently done, the age at which the case presents for examination. From the nature of the disease previously alluded to, it is fair to conclude that even at this time the disease had been present for a long period. From the results of the foregoing analysis I have arrived at the following conclusions:

1. That rotary lateral curvature is principally a disease of childhood, and may be either congenital or acquired.

2. That puberty, except as a concomitant occurrence, which may by its attendant circumstances increase it or bring it into unusual prominence, has no direct causative influence.

3. That lateral curvature should be looked for early in life, and as a factor in treatment the early inspection of children's spines becomes most important toward the prevention of the deformity.

RECENT MEDICO-LEGAL CASES.

By HENRY A. RILEY, ESQ.,

NEW YORK.

A CURIOUS insurance case is reported in the Supreme Court of the Territory of New Mexico. The Travellers' Insurance Company was defending a suit on an accident policy where the insured person was injured by a rupture of the tympanum of the ear, caused by diving while in bathing. The plaintiff testified that the ear was injured by the external violence of the water, and that the injury was really an accident such as would make the company liable. The defendants, on the contrary, asserted that the harm to the ear came from coughing, or at most only from contact with water by diving in the usual and ordinary course of common bathers. The judge decided that the evidence warranted the conclusion that the bather leaped from a plank for the purpose of diving into deep water, and said that "a slight accidental turn of the body while descending into the sea might very easily bring his ear in contact with the water in such manner that the force of his passage through it would create the injury." Consequently the company had to pay. It would seem that an insurance company which pretends to insure against accidents would not be able to do much business if it makes a practice of fighting claims apparently as clearly accidents as this one.

A testator who recently died in Brooklyn made some curious mistakes in his will. He left $2,000 each to a number of charitable institutions, but as the titles of the societies were wrong, the executors declined to pay the bequests until directed to do so by the court.

The matter was referred to a lawyer for examination, and he now reports that the bequest to the Female Em-

ployment Society was intended for the "Brooklyn Female Employment Society." The bequest to the Half Orphan Asylum on Atlantic Street was intended for the "Orphan Asylum of the City of Brooklyn." The bequest to the Graham Institute was intended for the "Brooklyn Society for the Relief of Respectable Aged and Indigent Females." The bequest for the Brooklyn Industrial School was intended for the "Brooklyn Industrial School Association and Home for Destitute Children."

The referee having reported in favor of paying the bequests to the institutions which seemed really intended to be benefited by the will, the court has directed this to be done.

The estate has suffered pecuniarily by the neglect to have the will carefully drawn, and the moral is an evident one.

Washington is now the headquarters for a stubborn fight between the oleomargarine and anti-oleomargarine men. The measure, which is proposed by the farmer element, is a tax upon all oleomargarine exported. This was a mode of attack thought to be certainly constitutional, and Congress has without question jurisdiction over general commerce. The outcome is quite uncertain, as thus far there has not been much done except skirmishing along the line. In Connecticut the farmers have influence enough to get a law through the House which will make the persons using the imitation quite uncomfortable. All stores selling oleomargarine must have signs plainly stating the fact; hotels, restaurants, and boarding-houses are required to place notices where all guests can see them. If a baker uses the imitation or sends a wagon about with his wares he must put a sign on the wagon with the legend "Oleomargarine Used Here." The penalty is a fine of from $5 to $50, or imprisonment for thirty days.

The authorities of Stockton, Cal., have been trying the health dodge to drive out the Chinese, but have found the Circuit Court of the United States in the way. An ordinance had been passed to regulate the laundry business, which prescribed certain parts of the city where the business could be carried on, and certain other portions where it could not. The forbidden portions turned out to be the habitable parts of the city, and the area where the business was to be carried on without hinderance proved to be uninhabitable marshes. The court said that such an ordinance meant simply destruction to the whole laundry business, and was so intended. It was not proper to regulate a business in such a way as to inevitably destroy it. The great objection, however, was that it was unconstitutional; the law of the land permitted the carrying on of lawful occupations, and as the regulation might affect Americans as well as Chinese, it was void. The meaning of the ordinance, Judge Sawyer said, was "The Chinese must go," but they could not be forced out in an illegal way. This is not the first instance where the courts have stood out honorably against the unjust persecution of the Chinese.

Remarkable Fecundity. — Dr. F. W. Putnam, of Binghamton, N. Y., writes: "July 21, 1884, I delivered Mrs. H. B——, a German lady forty years of age, and married twenty-two years, of her twentieth child. February 16, 1886, I delivered her of her twenty-first child. All have been single births except one pair of twins."

Cancer of the Stomach.—Many remedies have been proposed for the relief of the pains of carcinoma of the stomach, among others chloroform and cocaine. The following is recommended as of special efficacy by Germain Sée: Tincture of hyoscyamus and tincture of conium, each two drachms; tincture of gentium, one drachm; oil of anise, two drachms. Of this from ten to thirty drops may be taken after each meal.—*La Riforma Medica.*

Clinical Department.

TRYPSIN IN DIPHTHERIA.

Dr. E. W. Saunders, of St. Louis, Mo., writes: "I wish to call the attention of the members of the profession who have not used the new remedy, trypsin, to its efficacy in dissolving diphtheritic membrane. In every case in which I have tried it, all the membrane in sight was dissolved in less than one day, and in one case of extensive formation in the fauces, and also in the larynx, it certainly retarded the fatal issue. The symptoms of stenosis were only partially relieved, owing, no doubt, to the fact that the solution was not effectually applied to the larynx, and to the additional fact that the œdema of the glottis persisted. Tracheotomy was not urged, as the systemic infection was profound. The solution which I have used is of the strength of fifteen grains to the tablespoonful of water, with five grains of bicarbonate of soda added. This is sprayed upon the parts once every half-hour until the membrane disappears. The solution should be kept in a cool place."

SCARLATINA IN UTERO.

Dr. Wilson Saffin, of Carthage, O., reports the following case: A lady of good general health, who had had scarlatina when young, was delivered of a male child, labor being normal and of short duration. During the two weeks preceding delivery she was in constant attendance upon her older child, who was suffering from malignant scarlet fever, and who died three days after her confinement. During the first week of this child's illness the mother contracted a very sore throat, characterized by intense hyperæmia and involvement of the submaxillary glands. Immediately after delivery, upon examination of the child, the characteristic rash of scarlatina was observed. The disease was well marked, and ran a course of nine days. Desquamation occurred on the fifth day, and was as natural and well marked in large and small flakes as in any other and older child. The temperature ran from 100° to 104°, and was highest on the third day of life. Considerable nausea and diarrhœa were manifested on the third and fourth days, but no other symptoms than those mentioned presented themselves. The mother and child both made a good recovery, although the woman was confined in the same room in which her other child died. Dr. Saffin diagnosed the case as one of scarlatina in utero, as the rash was fully developed at birth.

VACCINATION IN PULMONARY PHTHISIS.

Dr. John W. Taylor, of Crawfordsville, Ind., writes that some years ago his brother, Dr. H. W. Taylor, conceived the idea of vaccination in the treatment of pulmonary phthisis. A case presented itself, showing cough, night-sweats, progressive emaciation, and the physical signs of tubercular lung affection. The patient was vaccinated over the diseased lung, and it "took" handsomely, and very decided relief followed. The patient was now vaccinated repeatedly during the next two years, and each time there was improvement, until finally the virus failed to make any impression on his system. His gradual decline then began, and he died in a year's time. The benefit he derived from these repeated vaccinations was much greater than that obtained from any other procedure. It was subsequently tried upon a number of similar cases, and every time that the vaccination "took" there was marked improvement, much more, Dr. Taylor thinks, than could be accounted for on the theory of simple counter-irritation. The writer suggests that this plan be tried in hospital practice, in order to ascertain how much value it really possesses. Owing to various causes no experiments on a large scale could be made by him or his brother.

MORPHINE IN THE TREATMENT OF CONVULSIONS OF INFANTS.

Dr. George T. Fanning, of Stony Brook, N. Y., reports the two following cases of convulsions in infants, in which morphine was given with ultimate good results. The first case was that of a girl, two years of age, who, when first seen, had been in rigid convulsions for about two hours. Potassium bromide and belladonna were given at short intervals for nearly three hours without relief, when it was determined to try morphine, and a dose of one-eighth of a grain was accordingly given. In about half an hour the convulsions stopped, and the child stopped breathing at the same time. Artificial respiration was at once begun, and kept up for nearly an hour, at the end of which time natural breathing began again. The second case occurred in a boy, two and a half years old. Supposing the convulsions to be due to intestinal irritation, Dr. Fanning ordered an emetic and an enema, and gave chloroform to relax spasm. The convulsions ceased, and the writer went away, but was recalled in about an hour, the messenger stating that the child was worse than ever. He was found in a very rigid condition, with one pupil widely dilated and the other contracted. After an unsuccessful trial of chloroform, one-thirtieth of a grain of morphine was given hypodermically, and in an hour one-sixteenth of a grain more. The pupils both became contracted, the breathing was slow and stertorous, but the convulsions continued on one side. The chloroform inhalations were continued for about two hours, when improvement occured very slowly, and the child finally recovered.

A CARBUNCLE CURED BY A GONORRHŒA.

Dr. F. N. Smith, of Allentown, N. Y., writes: "I had been treating a young man for boils and carbuncles some ten days, when, on one day, a large carbuncle on the back of the neck was just on its way toward maturation, acutely painful, and preventing all work—my patient was a railroad-bridge builder. The next day, very early in the morning, he came to me, saying that his carbuncle was about well, but that he had a private disease, just showing itself that morning, and would like that attended to now. On examination I found a well-marked case of gonorrhœa. He had no more trouble with carbuncles from that day; the specific disease passed away in due time. There is no doubt that the occurrence of the gonorrhœa had the effect of arresting at once the progress of the carbuncular inflammation."

UNUSUAL SOURCES OF INFECTION IN THE PUERPERAL STATE.

Dr. J. J. Smith, of Boston, Mass., sends us a report of two cases of infection in puerperal women, which he regards as of interest, as illustrating the sometimes unsuspected sources from which such infection may come. The first case was that of a woman who was confined in a room directly over one in which two children were sick with measles. The windows in both rooms were kept open, while the temperature was maintained at 70° by means of a fire. The woman was also instructed to wash out the vagina daily with a one per cent. solution of carbolic acid. On the morning of the third day she awoke with a severe headache, and soon had a chill lasting half an hour; the pulse was 128, and the temperature 104°. The lochia disappeared, profuse sweating occurred, and no milk was secreted. These symptoms continued for a few days, and subsided after the children had recovered from the measles. The second case was one of normal labor, with an exceptionally good convalescence. Some eleven days afterward Dr. Smith was called to vaccinate some other members of the family, and, on entering the room in which his former patient was, noticed a very strong and disagreeable odor. On inquiry, he learned that a drain in the yard had just been opened. He advised that the rear window be closed, and ventilation be secured from the front of the house. This advice was at once acted upon. But the writer was called the next morning, and was informed that the patient had a very severe headache. She had soon after a chill, lasting nearly an hour; the pulse was 120, and the temperature $103\frac{1}{2}^{\circ}$. There was some sweating, and the milk was reduced nearly one-half in amount. After a few days, during which time the drain had been closed, these symptoms gradually wore away and convalescence proceeded uninterruptedly. There was no fœtor to the lochia at any time in either of these cases. Dr. Smith does not assert that infection certainly occurred either from the measles or from the sewer-gas, but he regards it as very probable, since there were no lacerations, nor was there any evidence of decomposing blood-clots or of fragments of decomposing placenta in the uterus.

Progress of Medical Science.

Non-Operative Treatment of Dupuytren's Contraction.—Dr. Costilhes has collected a number of cases of contraction of the palmar fascia, from a study of which he concludes that, though local causes may often play an important part in the production of this affection, the prime and predisposing cause is to be found in a general dyscrasia, such as rheumatism, gout, diabetes, lead-poisoning, and perhaps also syphilis. Far from being usually progressive, as is commonly supposed, the disease, he maintains, is often stationary, and may even show periods of spontaneous improvement, and a purely medical treatment is frequently productive of excellent results. The author relates some cases in which a cure was obtained by the local treatment recommended by Vulpian. This consists in the prolonged use of the following ointment: Tincture of iodine, one-half drachm; iodide of potassium, two and a half drachms; lard or vaseline, five drachms. This ointment should be applied liberally over the entire surface of the palm, and over this is placed a double layer of wadding retained by a few turns of a bandage. The application is removed once a day until the epidermis of the palm is entirely exfoliated. The results are sometimes very rapid, so that a notable improvement may be obtained within a fortnight. To this treatment may be added with advantage, in certain cases, the internal exhibition of the iodides and methodical massage of the affected parts.—*Giornale Internazionale delle Scienze Mediche*, January, 1886.

Albuminuria in Strangulated Hernia.—Dr. J. Englisch found albuminuria present in thirty-two out of fifty-four cases of strangulated hernia. It was manifested almost immediately upon the occurrence of strangulation, and the greater the degree of the latter the more pronounced was the albuminuria. There was no albumin in the urine in the cases observed of strangulated hernia of the omentum or epiploic appendages, nor was there any in simple inflammation of the hernial sac. The albuminuria was very marked in gangrene of the intestine, and after the release of the strangulated gut by operation the albumin usually became gradually diminished in quantity. In fatal cases of strangulation the albuminuria was most marked, and the quantity of urine became less as that of the albumin increased. The author believes that death in certain cases of strangulated hernia, in which no sufficient explanation for it can be found post-mortem, is often due to the existence of albuminuria. He deduces a practical conclusion from his studies, which is, that when albuminuria appears in conjunction with strangulated hernia, no attempts at taxis should be made, but an operation should be resorted to at once to free the imprisoned intestine. —*Gazzetta Medica Italiana Lombardia*, February 6, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, April 24, 1886.

INTUBATION OF THE LARYNX.

THE question of operation in croup or laryngeal diphtheria may be said to be yet *sub judice*, although of late years the tide of professional opinion has been setting strongly toward the side of surgical interference. And although authorities are now almost unanimous in advising that tracheotomy be employed at one time or another in membranous croup rather than to let the child die from strangulation, they are by no means at one in counselling an early operation, some maintaining that it should be undertaken immediately upon the appearance of the first sign of stenosis, others averring that it is a desperate measure which is justifiable only when all other means have been tried in vain. And practitioners in general are still very loath to even suggest what they are wont to regard as an heroic measure and one of little practical utility. There is much reason for this. The parents and friends are naturally distressed at the thought of an operation, and, unless they can be assured of its success, will often refuse their assent to its performance. Again, tracheotomy is by no means the simple procedure which some of its enthusiastic advocates, with a greater fund of theory than of practical experience to draw upon, would assume. Tracheotomy performed on the living subject, especially a child, struggling for air, with the larynx rising and falling at each labored respiration, and with the blood pouring from the turgid veins to obscure the delicate field of operation, is one of the difficult tasks of the surgeon, and, taking into consideration the problematical chances of final success, is one which he assumes with no light heart. It is, therefore, not surprising that the operation has been slow in gaining recognition as a justifiable therapeutical measure despite the fact that many lives have been undeniably saved by its timely performance. And if any more simple operation could be devised which could be shown to be of at least equal value it would be welcomed.

We referred recently in these columns to the method of intubation of the larynx first proposed and practised by Dr. Joseph O'Dwyer, of this city. This method does away with the use of cutting instruments, and consists simply in the insertion of a tube of peculiar shape between the vocal cords, thus permitting of the passage of air into the trachea. Dr. O'Dwyer's experiments have been conducted very unostentatiously, and it is only through some very recent publications in the journals of New York and Chicago more particularly, that we have been able to obtain any data upon which to base an estimate of the merits of the procedure. Every new therapeutical measure must be judged by its results, and if on extended trial it cannot prove that it is better than some older and tried remedy, it deserves to, and surely will, fall into oblivion.

The largest number of reported cases of intubation of the larynx for pseudo-membranous laryngitis have been performed by Dr. F. E. Waxham, of Chicago,[1] who has had 17 cases with 8 recoveries; Dr. Dillon Brown[2] reports 15 cases with 4 recoveries; Dr. E. F. Ingalls,[3] 2 cases, both fatal; and Dr. W. P. Northrup,[4] one successful case. In addition to these, Dr. A. B. Strong[5] has employed the method with success in one case of acute catarrhal laryngitis.

These are all the published statistics which we have been able to discover in a somewhat hasty search, and, excluding the case of catarrhal laryngitis, we have 35 operations with 13 recoveries, or slightly over 37 per cent., certainly a very favorable showing, when we consider that nearly one-half of the cases were foundlings, and many of them infants.

If now we turn to the results of tracheotomy we find a smaller percentage of recoveries, taking the statistics of hospital and private practice together, as has been done in the case of intubation. Gay[6] states that of 206 cases of tracheotomy performed for croup in the Boston City Hospital during twenty years there were 65 recoveries, about 31 per cent., and in his own practice he has had 29 recoveries in 86 operations, nearly 34 per cent. Of 77 cases operated upon during the year 1885 in the same institution, Lovett[7] states that 20, or nearly 26 per cent., recovered. These results are not very different from those formulated by Agnew[8] in a study of upward of 11,000 cases, and we may therefore assume the average percentage of recoveries after tracheotomy to be not far from 30, although Solis-Cohen[9] is disposed to regard the operation in a less favorable light, notwithstanding his own brilliant series of successes.

We thus find that Dr. O'Dwyer's method already compares very favorably with tracheotomy as regards the saving of life, while certainly, to consider it from an æsthetic point of view, it is much to be preferred. It is, however, too soon to pronounce absolutely upon its merits, for the figures are too small and the operators too few to serve as anything more than an encouragement for further trials. It is only after a method has become in a measure popularized, and the number of cases has mounted into the hundreds, that we can form an adequate judgment of its worth. But if intubation of the larynx proves itself to be as valuable as these first essays would lead us to hope, it will be accounted one of the great advances in this age of medical discoveries, and we may only wish that such will be its fate.

[1] The Chicago Medical Journal and Examiner, June, November, and December, 1885, and March, 1886.

[2] THE MEDICAL RECORD, April 10, 1886.

[3] Journal of the Am. Med. Association, February 6, 1886.

[4] New York Medical Journal, April 3, 1886.

[5] The Medical and Surgical Reporter, March 20, 1886.

[6] Reference Handbook of the Medical Sciences, vol. ii., Article Croup.

[7] THE MEDICAL RECORD, April 3, 1886.

[8] Principles and Practice of Surgery, vol. iii.

[9] International Encyclopædia of Surgery, vol. v.

BACTERIA VERSUS LEUCOMAINES.

NOTWITHSTANDING the rapid spread and very general acceptance of the theory of the bacterial origin of infectious diseases, there are yet many who are still unconvinced of the truth of the new doctrines, and not a few who are absolutely incredulous. The theory is certainly a very plausible one, and seems to be borne out by many incontestable clinical and histological facts; and its opponents have been hampered by their inability to formulate any other theory, by which the phenomena of contagion could be explained, which could rest upon tangible and indisputable facts. The results of some recent investigations of M. Armand Gautier and others have, apparently, at last given them a rock, or at least a raft, upon which they can rest their cannon and fire their shots into the enemy's fleet without themselves being swamped by the recoil. And we may now see the war begin in earnest.

The Academy of Medicine of Paris was the scene of the first effective battle. It was opened by M. Gautier, who presented a paper embodying the results of his investigations concerning the animal alkaloids, ptomaines, and leucomaines, found respectively in dead and in living tissues, and which were capable of inducing toxic symptoms similar to those caused by many of the vegetable alkaloids. One of these leucomaines, he stated, had been isolated from the tissues of the spleen and pancreas by Kossel, of Berlin. It was formed in the living organism by the destructive decomposition of a complex albuminoid substance known as nuclein, constituting the greater part of cell nuclei, and was isomeric with hydrocyanic acid, its formula being $C_3 H_3 N_3$. Morelle had also discovered in the spleen a second alkaloid, which had been found, by experiments on the lower animals, to be a motor paralyzer and to produce effects analogous to those caused by muscarine and digitalin. He also stated that, in addition to these alkaloids, there are other non-crystallizable bodies, formed in the living organism as a result of vital processes, which are even more poisonous than the leucomaines and are capable of producing an intense auto-infection. The poisoning from these substances differs from that caused by leucomaines in that it is accompanied by fever.

M. Peter, who has always been one of the most active opponents of bacteriologists in general, and of Pasteur in particular, hailed this communication as marking a new era in medicine. This discovery, he exclaimed, freed scientific medicine from the thraldom of bacteria; the phenomena of disease were the result of vital actions, were produced within the organism itself by living and active cells, with which microbes had nothing to do. All through life, he said, there is a continual circle of change, new elements are brought in, old ones are removed, and the "cadaveric portion," the result of the wear and tear of the tissues, is eliminated. Whenever the production of these effete matters is in excess of the powers of the emunctories to get rid of them, whether through increased waste of the tissues or decreased power of elimination or destruction, the phenomena of disease arise. The disease so produced will vary, according to the greater or less accumulation of the toxic material, all the way between typhus and a mild ephemeral fever. Cholera, too, can be more easily explained as a poisoning by ptomaines or leucomaines than as the result of a secretion from the comma-bacillus. The speaker went much further than M. Gautier, who admitted that there were certain diseases, such as the eruptive fevers, in which one must recognize the action of a contagious germ coming from without.

M. Cornil replied at some length to this arraignment of the bacteriologists, and maintained that M. Peter had failed to offer any satisfactory substitute for the prevailing theory of contagion. He said that a disturbance of equilibrium between the different parts of the economy was indeed a most important condition in the pathogenesis of infectious diseases, in that it gave occasion to the development of the specific micro-organisms; but how was it possible to explain, other than by the intervention of these, the diversity of form of infectious and contagious maladies? Certain forms of bacteria were found constantly associated with the distinguishing phenomena of certain diseases, and there must be some reason for this. It had never been shown that microbes were formed *de novo* within the organism, and M. Peter had failed to account for their presence in disease.

It is unnecessary to reproduce the arguments of those who contended for the doctrine of infection through the agency of micro-organisms, for they are familiar to all. Thus far in the discussion the bacteriologists seem to have had the best of the argument, but many of the facts brought forward by M. Gautier are new, and there has not yet been time to digest them and to study them in all their bearings. M. Peter's followers are like a newly-equipped army fighting with strange weapons, with the use of which they are not yet familiar, and we cannot judge from the first battle what they may be able to accomplish when they have learned how to handle effectively their new arms. And though the best generals are now on the side of the bacteria, it does not follow that the leucomaines will not be able to make a good fight for recognition.

A CRITICISM OF THE NEW YORK ACADEMY OF MEDICINE.

THE New York correspondent of the *Journal of the American Medical Association* sends to that journal a criticism upon the New York Academy of Medicine which will, we think, be looked upon as unwise and unnecessary, if not actually malicious. The writer refers to the various changes which have been made in its organization, and admits that many of these are improvements. In fact, the only point which he criticises is the alleged removal of all ethical elements from the Constitution and By-laws.

"Practically," he says, "the only reference to the matter of discipline now found is in the eighth article of the Constitution, in which it is provided that the Academy may, by a three-fourths vote of the resident Fellows (the printed call for the meeting having contained a notice of the motion to suspend or expel), suspend or expel a Fellow 'for violation of its regulations.' The only other reference to discipline in the Constitution is in Article VII., where it is stated that the certificate of fellowship may be revoked for cause; but as there is no provision whatever for the manner in which this revocation is to be accomplished, it really amounts to nothing. The only reference of the kind in the By-laws is in the eleventh sec-

tion of No. X., which reads as follows: 'It (the Council) shall, on a written statement signed by a complainant, and duly forwarded through the Recording Secretary, take cognizance of any complaint against a Fellow. The Council may, after investigation, dismiss a complaint or transmit its finding thereon to the Academy for further action.' From this it will be seen that the matter of disciplining is therefore wholly comprised in Article VIII. of the Constitution, which, as just mentioned, prescribes that he may be suspended or expelled for violation of the Academy's regulations. As there is nothing whatever in these 'regulations' of the faintest ethical import, it is evident that a Fellow can be suspended or expelled solely for a breach of certain routine rules. He may be a debauchee or sot, a blackleg or a thief, but so long as he acts in accordance with these 'regulations,' the Academy cannot touch him; and if it attempted to do so, the defence that he had not violated the regulations would hold good in any court of law. There is not even the saving clause of 'conduct unbecoming a gentleman' anywhere to be found.

"Furthermore, it is not necessary, so far as any statutory provisions are concerned, that in order to belong to the Academy a person should be a *regular* graduate in medicine. So far as regards any restriction in the Constitution or By-laws, a homœopath, eclectic, 'physio-medical,' 'herb doctor,' or any kind of a charlatan whatever is entitled to become a Fellow if only he is the possessor of a diploma or license, and has resided in New York or its vicinity for three years. There is absolutely nothing said about what sort of a college or other body the candidate must have derived his diploma or license from; it is simply required that he "must have been a graduate or licentiate in medicine." It is noticeable that the committee on education, as well as that on ethics, has been entirely abolished."

The conclusion to which the writer points is that the Academy is now not in a position to have representation in the American Medical Association.

It will seem to all fair-minded persons that it would be time enough to attack the Academy when some actual offence had been committed. No one in the city doubts that care will be taken as to the character of its membership. The object of the Society has always been that of a scientific body, and its present organization is intended to promote that object.

After a year of unexampled prosperity and useful work, some one must, forsooth, cry out that the Academy has no Code! Well! neither has the French Academy. It does not live among barbarians, and its membership is of such a character that it does not need to incorporate the Ten Commandments into its By-laws in order to keep out rascals. Doubtless there are societies which do require such written safeguards, but the New York Academy, we presume, believes that they are not necessary for the prosecution of its work.

THE LAST VANDERBILT GIFT.

THE College of Physicians and Surgeons of this city has now received half a million dollars for a college building and its endowment, a quarter of a million for a Maternity Hospital, and a quarter of a million for a Dispensary. Including considerable already owned by its faculty, the institution is now by far the richest medical college in the country. As its management is in the hands of wise and conservative men, there can be no doubt but that it will before long do educational work, which will very greatly redound to the credit of our city and country.

We trust that it will soon remove the reproach which now falls upon this city, of having no medical college, except the Woman's, which compels a three years' graded course.

ANOTHER OBJECTION FROM ABROAD TO THE WASHINGTON MEETING.

DR. L. H. PETIT, writing in the feuilleton of *L'Union Médicale*, asks what is to become, now that there has been a reorganization of the American Committee of the International Congress, of the magnificent promises made in Copenhagen by Dr. Billings. He says that when the proposition to hold the Congress in Washington was made, M. Verneuil observed that the expense of the voyage would be a considerable tax upon the resources of many European physicians, who would like to attend the meeting if held nearer home; that those who could afford to go were advanced in life and could not stand the fatigue of the voyage; while those who were able to endure the fatigue were young and could not afford the five or six weeks out of their time, and three or four thousand francs out of their purses, required for a trip to Washington. To which Dr. Billings replied that the United States would feel so honored at being the place of meeting of the Congress that he was sure that they would take upon themselves the expense of the voyage and of the sojourn in Washington of the European physicians who might wish to attend the Congress. It was this promise, M. Petit says, which decided the vote of the assembly. Well it might!

We fear, however, were such a promise made and fulfilled, that the District of Columbia would be too confined a space in which to receive and care for the recipients of our oriental hospitality. But the United States is not in that sort of business just now, we imagine. And it is to be feared that our visitors will be obliged to content themselves with the remission of the $10 admission fee, which is promised them, we believe; although the writer from whom we have quoted thinks that that would hardly be a sufficiently tempting bait to allure physicians across the Atlantic, however great may be their love for international medical science.

How large this world of ours is; and how small men sometimes appear in comparison with it!

A COLD IN THE HEAD.

DR. DAVID LEE recently read before the Harveian Society, of which J. Hughlings Jackson is president, a paper on the "Neurotic Treatment of Catarrh." He considers the diaphoretic treatment of catarrh as entirely opposed to the pathological condition, which is a neurosis in which the vaso-motor system is very largely concerned. An impression of cold from draughts, insufficient clothing, or wet clothing, makes an impression on the surface of the body or the cutaneous-nerves which is by them transmitted to the nerve-centres. The effect is not immediately manifested, but after a few hours a chilliness of the surface is experienced, clearly due to a

general vaso-motor spasm of the cutaneous vessels, and accompanied by flying pains and aches in the limbs which are probably really central and not peripheral, and due to disturbed vascular conditions of the nerve-centres themselves. The doctor, after describing the territories which the vaso-motor spasm thus invades, goes on to outline his treatment, the indications being to soothe the reflex disturbance of the central nervous system, to quiet the local congestion and hyperæsthesia of the nasal mucous membrane, and to arrest the flux if it has already commenced. To completely win the confidence of the learned body before whom he read his paper, he tells what he does for himself when he has a cold. He takes forty to sixty grains of bromide of potassium, repeating the dose in six hours, and if necessary repeating it again after the same interval has elapsed. He paints the nasal mucous membrane, especially of the inferior turbinated bones, with four per cent. solution of hydrochlorate of cocaine by means of a camel's-hair brush; and for the flux he uses fifteen minims of the tincture of belladonna in a little water every hour or two, until his throat feels somewhat dry. He says: "Since I have hit upon this plan I have never failed rapidly to arrest my own catarrhs, nor have I failed in any instance in which I have myself been able to superintend the administration of the remedies."

In the discussion which followed the reading of this paper the learned members defended diaphoretics, one because experience had proved that they had been of use; another made a plea for the time-honored theory of a chilled exterior and an overheated interior of the body; while still another thought "diaphoretic treatment most in accord with the natural process of cure."

The contagiousness of colds was also discussed, but, unfortunately, our English brothers did not throw any light on this question, which is evidently often asked to vex the practitioner on the other side of the Atlantic as well as this.

THE HISTORIES OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

THE occasion of laying the foundation-stone of the new hall for the joint examination of students in medicine and surgery, by the Queen of England, has called to mind the many strange circumstances connected with the history of the Royal Colleges of Physicians and Surgeons. Until the year 1422 there was no restraint in the practice of medicine in England, when "the persons, male and female, who practised physic" were called upon to pass an examination before one of the universities. In 1513 the next step was taken, by giving the bishops and their vicar-generals the power to license practitioners. This plan continued for five years, when Linacre persuaded Henry VIII. to found the College of Physicians. Slow progress was made from this time, and their home was destroyed in the great fire of London; they struggled on, however, until the time of Harvey, who gave a series of lectures describing his then novel views as to the circulation of the blood and action of the heart. Still they lost ground and could not pay their rent, and their building was about to be confiscated and sold by auction, when Dr. Baldwin Harney purchased it and gave it to the College in perpetuity. Matters afterward took a turn for the better, and after changing to a new building in Warwick Lane, eventually moved to their present home in Pall Mall East.

The policy of those who have from time to time controlled this college has been often condemned. Even during the eighteenth century they maintained their high and dry isolation from general practitioners, and insisted on graduation at Oxford or Cambridge as a preliminary to membership. As one of their own presidents once wrote, they were "wrapped up in the contemplation of their own dignity." Evidently too much ignorance, pedantry, and conceit were sheltered by the ægis of their protection.

The College of Surgeons was not incorporated until the year 1800, so that it is quite a modern institution, so to speak. The history of the English surgeons, however, can be traced back to mediæval times, when they had as associates the barbers; for in those days the barber was called upon "to shave, to perform cold affusions, to bleed, and perform operations." They formed part of the London city corporations under a charter granted by Edward the Second. The two branches of the profession did not agree and they parted company, but in 1540 again united, on the understanding that, with the exception of teeth-drawing, no barber should perform any operation. This union lasted two centuries, until 1745, when they finally separated for ever; but the barbers seemed to have had the best of the bargain, for they retained the building, nearly all the property, and even the anatomical preparations and drawings.

The surgeons from this time increased in number, but were bitterly opposed by the physicians, who would not allow them to prescribe any internal remedy, even when in a surgical case it was necessary. As Chevalier remarked, "if a man had but a boil, he must have a surgeon to apply a plaster, a physician to order a purge, and lastly, an apothecary to put it up." Early in the last century there were but two hospitals in London—one received no pupils, and the other but nine at a time; while the barbers, having a monopoly of dissection, enforced rigorously the prohibition of dissection outside their hall.

Happily, all this is now reversed, the city charter was abandoned, and in 1800 they were constituted the "Royal College of Surgeons." With the traditions of Hunter, the great surgeon, and the possession of his museum of priceless value, they have made rapid strides, and with the liberal steps taken in 1844, have to this day increased yearly in importance and public estimation.

The co-operation between the two representative English medical colleges, after so many years of strife and jealousy, will doubtless be productive of much good, and the joint examinations will remove many difficulties from the path of the medical student.

A BILL FOR AN ACT TO REGULATE THE PRACTICE OF MEDICINE AND SURGERY IN THE STATE OF IOWA has recently passed the Legislature of that State and become a law, though its penalties are not to be enforced until January, 1887. The law is similar in many of its features to the well-known Illinois law for regulating the practice of medicine and surgery.

News of the Week.

COMPULSORY VACCINATION has been established in Japan, since January 1, 1886.

EXTRAORDINARY PREVALENCE OF ANEURISM AMONG FOREIGN RESIDENTS IN CHINESE AND JAPANESE PORTS.—At a meeting of the Sei-I-Kwai, Dr. Eldridge, in reporting a case of aneurism, said: "That for some reason, as yet unexplained, residents of European blood in the Chinese and Japanese ports are perhaps more subject to this disease than are any other people on earth. In Yokohama, during seven years, aneurism ranked fourth among the causes of death, every case included in the return being undoubted, and nearly all submitted to post-mortem examination."

THE JOURNAL OF NERVOUS AND MENTAL DISEASES has appeared in the form of a monthly, under the able direction of Dr. B. Sachs.

THE APPOINTMENT OF DR. E. G. JANEWAY, as successor to Dr. Flint, in the Chair of Medicine at Bellevue Medical College, is a most fitting one, and cannot fail to be generally approved.

ANOTHER STATE BOARD OF HEALTH.—The bill to create a State Board of Health in Ohio, having already passed the Senate, was passed by the House on April 17th, by a vote of 78 to 12.

DR. FANCOURT BARNES published, some time ago, a German Medical Dictionary, which Dr. George R. Cutter, of this city, claims was stolen from a dictionary of the same kind published by him a year or two before. We learn from the *Journal of the American Medical Association* that the charge is an unjust one, for one reason because Dr. Barnes' work contains 22,000 words, Dr. Cutter's only 13,000. The charge against Dr. Barnes is a serious one, and we should be glad to see his name cleared.

THE CHICAGO MEDICAL SOCIETY.—We are glad to learn from the report of its Secretary, Dr. Montgomery, that this Society is in a state of greater prosperity than ever before. It now has a membership of 325, and during the past year held twenty-four meetings.

A KNIGHTHOOD DECLINED.—We never before have had the pleasure of recording the refusal of knighthood by an English doctor. Mr. Savory, President of the Royal College of Surgeons, has done this.

HEROISM AND RABIES.—We are informed of a courageous act on the part of a medical student named Harris, attached to Charing Cross Hospital, who one day last week seized a mad dog which had attacked a lady at the Charing Cross Restaurant. The animal, notwithstanding it was muzzled, managed to bite Mr. Harris in the hand, who did not, however, relinquish his hold, and called a policeman to his aid, who refused assistance until Harris said, "If you do not help me I shall let the dog loose on you." He then managed to twist the chain round the dog's neck, producing insensibility, during which it was taken to the station by four constables. The hero of this exploit left London for Paris on Thursday, accompanied by four fellow-students, to submit to the treatment of M. Pasteur. The dog died two days after its seizure, from rabies.

EXTRAORDINARY SUBJECT FOR A PRIZE ESSAY.—The Paris Academy of Medicine has chosen an extraordinary, not to say an impossible, subject for a prize essay this year —"Préciser par une Série d'Observations s'il existe un Traitement Abortif de la Syphilis Confirmée" (to determine by a series of observations if there exists an abortive treatment of confirmed syphilis), upon which M. Diday has suggested that the Academy must have been seized with an economical fit, and that it would be interesting to see if any one could manage to write a paper of four hundred pages on abortive treatment directed against confirmed syphilis.—*The Lancet.*

COLLEGE COMMENCEMENTS IN ST. LOUIS.—The St. Louis College of Physicians and Surgeons has graduated a class of 17, the Missouri Medical College a class of 86, the St. Louis Medical College a class of 18.

THE FIFTY-SECOND ANNUAL COMMENCEMENT EXERCISES of the Medical Department of the Tulane University of Louisiana were held on March 31st. A class of 63 was graduated.

THE COLUMBUS MEDICAL COLLEGE graduated a class of 19 at its Annual Commencement on March 5th.

ON ACCOUNT OF THE CYCLONE which recently devastated Helena, the Arkansas State Medical Society will meet (April 28th) at Little Rock.

INTERNATIONAL CONGRESS OF HYDROLOGY AND CLIMATOLOGY.—The next International Congress of Hydrology and Climatology will be held at Biarritz, France, October 1, 1886, instead of Beyreuth, Bavaria, as previously stated.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA.—At a stated meeting of the Medical Association of the District of Columbia, held on the 6th inst., the following were elected officers for the ensuing year: Dr. J. M. Toner, President; Dr. J. W. Bulkley, First Vice-President; Dr. George Byrd Harrison, Second Vice-President; Dr. Lachlan Tyler, Secretary; Dr. S. S. Adams, Treasurer.

DR. ED. C. HARWOOD has been appointed Visiting Physician to the Hospital for Nervous Diseases on Blackwell's Island, to fill the vacancy caused by the death of Dr. Delany.

SENSIBLE WORDS FROM THE SOUTH.—The *New Orleans Medical and Surgical Journal*, the leading journal of a large Southern section of our country, says editorially, with regard to the next meeting of the American Medical Association: "We sincerely hope that the sturdy and conservative members may finally come to an amicable agreement over the policy and plan of organization which best accord with the purposes of the international body. Our foreign brethren demand the local organization of the Congress upon a broad and liberal basis. They demand that the various sub-committees and sections shall be composed of the representatives of American medicine, men of international prominence, regardless of their State residence, their Association membership, or their opinions on questions of medical ethics. The wishes of our invited guests are entitled to some respect. Without their co-operation the coming Congress will certainly lose its international character and become simply a local gathering."

STARLING MEDICAL COLLEGE graduated a class of 28 at its Commencement on March 4th.

THE MEDICAL COLLEGE OF VIRGINIA, at its annual commencement, March 10th, graduated a class of seventeen.

THE INTERNATIONAL CONGRESS AND THE APPROACHING MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The Executive Committee appointed by the "Enlarged Committee" of the Association has been actively at work for several months. Just what it has succeeded in accomplishing no one seems to know. The organ of the Association, and those journals which echo its oracular utterances, assure us weekly of the high degree of success which it is attaining, but give us no particulars. Their assurances, however, strongly resemble those which a late Ohio politician was accustomed to give to the faithful: he would "claim it, and claim it exultingly," until the official returns rendered further deception impossible. But there are many evidences that all is not well with the Executive Committee. They can find plenty of men who will gladly accept the offices, but the men who would honor the offices are slow to accept them. The death of Dr. Flint and the paralysis of Dr. Davis have still further weakened their arrogance. They can have a successful Congress, so far as numbers will render it successful; all will admit that; but unless many of those who are now holding aloof can be induced to assist, the Congress cannot be successful, in the best and proper sense of that word.—*Columbus Medical Journal.*

SIR JAMES PAGET, Professor Burdon Sanderson, Dr. Lauder Brunton, and Sir H. Roscoe have consented to serve on the Commission to inquire into M. Pasteur's method of inoculation for hydrophobia.

A LOW TEMPERATURE.—Dr. G. F. Harvey, of Parsons, Kan., reports in the *Kansas City Medical Index* a case of a young woman who had suffered since childhood from cardiac asthma and emphysema. A few days before death, while suffering from general anasarca, she had a temperature under the tongue of 92° F.; two days later it was 94° F. She died three days subsequently.

THE ACADEMY OF MEDICINE OF ROME has voted to send a delegate to Paris to learn Pasteur's method of prophylactic inoculation against rabies. It is rumored that the German Government will send a commission, composed of Drs. Virchow and Koch, to study Pasteur's methods. M. Pasteur is being loaded with honors, as he has been decorated by nearly all the sovereigns of Europe, for his remarkable discovery of the means of prevention of hydrophobia, and the King of Portugal has just sent him an autograph letter, conferring on him the Grand Cordon of the Order of St. Jacques, a decoration specially designed to recompense scientific merit. This letter was handed to M. Pasteur by Dr. Bournay, one of the doctors who arrived in Paris on the 2d inst. with three children from Portugal, reported to have been bitten by a mad dog. The children are sent at the expense of the Queen, to undergo M. Pasteur's treatment.

A MILLION DOLLARS TO A MEDICAL COLLEGE.—The daily papers of April 17th announced the following: Messrs. Cornelius Vanderbilt, William K. Vanderbilt, Frederick W. Vanderbilt, and George W. Vanderbilt have each contributed $62,500, or a total of $250,000, for the erection and endowment of a new building to be supplementary to the two already endowed, and to be known as the Vanderbilt Clinic of the College of Physicians and Surgeons.

This will be a building devoted entirely to the clinical instruction of students, except the lower floor, which will be a free dispensary. Of the $250,000 donated by the young Messrs. Vanderbilt, $150,000 will be used in the construction of the building, and the balance will be used as the endowment for the running expenses of the clinical school and the free dispensary. The new building will be erected at the corner of Tenth Avenue and Sixtieth Street, adjoining the Sloane Maternity Hospital, and, like it, will be 75 by 100 feet. The Vanderbilt Clinic will be under the control of a board of five managers, in which Frederick W. Vanderbilt will represent the donors, Dr. John C. Dalton, the president of the college, will represent the institution; Dr. William H. Draper, the Board of Trustees of the college, and Drs. Henry B. Sands and James W. McLane the Faculty. To these gentlemen will be entrusted the erection of the building, the investment of the surplus funds, and the equipment and furnishing of the institution. The plan proposed includes the free medical dispensary on the first floor, an amphitheatre for clinical purposes on the floor above, and a number of small rooms for private instruction or instruction in specialties. The Vanderbilt Clinic will not be in the nature of a hospital, as the only cases to be treated here, in the presence of classes, will be those of patients who are able to move about, and who are not confined to beds. The clinical work will be on diseases of the eye, ear, throat, heart, lungs, nerves, and genito-urinary organs, skin diseases, and diseases of women and children. In the great amphitheatre-shaped room all lectures on medicine and diagnoses of diseases which fall under a physician's rather than a surgeon's care will be delivered.

THE LOUISIANA STATE MEDICAL SOCIETY held its annual meeting at New Iberia, on April 14th.

THE CORNER-STONE OF THE NEW BUILDING of the College of Physicians and Surgeons, at the corner of Tenth Avenue and Sixtieth Street, is to be laid to-day. Mr. Chauncey M. Depew delivers the oration.

PROFESSOR PASTEUR PROSECUTED.—Pasteur has been prosecuted for practising medicine and surgery without being legally qualified. The case, however, fell through, his defence being that he employed a duly qualified medical man to perform his operations.

A RIVAL TO PASTEUR.—Hoang-nan appears to prevent hydrophobia when given systematically in full doses, *i.e.*, one to two grammes daily of the powder. So says Dujardin-Beaumetz, who has given it to twenty-four persons who had been bitten by rabid dogs.

THE INNOMINATE ARTERY WAS RECENTLY LIGATURED by Mr. Bennett May, of London. The patient, who so far has done well, was a laborer suffering from a large subclavian aneurism. Dr. V. Mott first performed this operation, his patient living four weeks. Dr. Smyth, of New Orleans, is, we believe, the only surgeon who has successfully tied this artery.

Removal of a Tumor of the Brain.—Dr. J. O. Hirschfelder, of San Francisco, reports a case of brain tumor in which the disease was diagnosticated, its locality mapped out, and an operation performed. The bone was removed, and the tumor found as expected. It was a gliomatous mass, however, and infiltrated so that only a part could be removed. The patient died eight days later. The symptoms pointed to a tumor of the middle part of the right post-central convolution, and it was found in that locality.

The French Association for the Advancement of Science will hold its fifteenth meeting at Nancy, August 12th next, under the presidency of Professor Friedel.

An Unhealthy Country.—Among the 8,259 districts into which Italy is divided, there are 1,876 in which there are no water-closets, or no substitutes for them, except mother earth. In 2,836 districts the dwellings are small and unhealthy. In 1,483 districts the houses have no chimneys. In 4,965 districts meat is not eaten, and 3,637 have no slaughter-houses. Among 10,000 Italians, only 23 are meat-eaters. In 1,437 districts there are no regular physicians. In 1881 there were 104,067 cases of pellagra. From 1835 to 1881 Italy was visited by the cholera seventeen times.

Cholera has reappeared in Italy near Padua; also in France. Several cases suspected to be cholera have appeared in Spain.

Medical Reform Abroad.—Complaints of overcrowding of the profession and of abuse of medical charities are being made in Belgium, Berlin, and Vienna. In the latter city it is stated that there is one physician to every 500 inhabitants. As one-half the inhabitants get medical services at the hospitals, it leaves practically only one doctor to every 250 inhabitants. The free dispensaries are especially charged with injuring the practice of the physicians.

Peach-root Tea is an Efficient Remedy for epilepsy, according to Dr. J. L. Dorset, of Dorset, Va. (*Medical Age*). Three or four ounces of an infusion are to be given daily. Dr. Dorset reports one case in confirmation of his view.

Lanolin, the new basis for ointments, has been used in this city to a considerable extent, and so far it has caused considerable disappointment.

The Microbe of Dengue.—A Texas physician, Dr. McLaughlin, claims to have discovered and cultivated the microbe of dengue. It is found uniformly in the blood of patients suffering from this disease.

The Archduke Charles Theodore of Bavaria, who practises medicine, has obtained permission from M. Pasteur to be present at the inoculations in the laboratory of Rue d'Ulm. The Archduchess, who helps her husband in his professional labors, will accompany him as an assistant.

Sir Andrew Clark paid a professional visit to a lady in the south of France, being absent from London five days. For this he received a fee of $7,500. The lady also gave him a sum of $25,000 for distribution among the London medical charities. The London Hospital and Medical College got $15,000 of this.

For Diabetes Insipidus give valerian, according to Demange. Trousseau and Bouchard also have recommended this drug. Ergot is also much used.

Alveloz in Cancer is a disappointing drug, yet worth a trial, according to late experiments by French physicians.

The Curette and a Caustic are the best things for lupus, according to Unna. The fashionable caustics are pyrogalic acid and ichthyol.

Ichthyol, of which there is now much talk, is described chemically as sulpho-ichthyol-ammonium. The best results from it, says Unna, are obtained by a local application in acne and acne rosacea. It is also useful given internally (gr. xv. daily) in pityriasis, seborrhœa, sicca, and ichthyosis. It is unfortunate that the manufacture of ichthyol is in the hands of a company which has certain patents or proprietary rights over it.

Professor Strümpell, of Leipsic, has received a call to Erlangen. He is to be succeeded by Professor F. A. Hoffmann, of Dorpat.

The Late Austin Flint, M.D., LL.D.—At a regular meeting of the New York County Medical Association, held at the Carnegie Laboratory, April 19, 1885, the following was unanimously adopted:

Whereas, It has pleased God, in the exercise of his Divine Will, to remove from the sphere of his usefulness our esteemed co-worker, Austin Flint, M.D., LL.D., revered abroad but best loved at home; and whereas it is but proper that we take to ourselves that consolation which comes from the rehearsal of his many virtues. Therefore be it

Resolved, That as an Association, to whom he gave his latest work, and ever his cherished counsel, we add our own to the many other testimonies of his worth.

Resolved, That we recognize in him an author of marvellous industry, who has made his impress on the medical thought of the age; modest and just, but still a master of deliberate statement; conscientious in the recognition of the labors of others, and despising not the humblest contributor to that science to which he devoted his life; a practitioner of his art without device; zealous for the dignity of his calling; suave, considerate, and gentle; one who worthily gained the gratitude of his patients, and will ever live in their most blessed memories; a consultant who dispensed rich stores of knowledge, ever judging kindly, more careful of the rights of others than his own, cheery and abounding in charity for his brethren; a teacher, hand-in-hand with his pupil, analytical, painstaking, less eager for glory than exactness, ever approachable, and always ready with a reason for the faith that was in him, and a man in all the walks of life blameless, "who hath borne his faculties so meek," and "hath been so clear in his great office," and who, laboring to the last, hath fallen in sight of the promised land of his cherished hopes. And be it also

Resolved, That we tender to those of his own household and kinship our heartfelt sympathies, knowing full well that to his son his life was a pæan of touching affection, and to his widow one long benediction.

John Shrady, M.D.
E. S. F. Arnold, M.D.
J. W. S. Gouley, M.D.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 15, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE PRESIDENT introduced Dr. A. Vander Veer, of Albany, N. Y., ex-President of the Medical Society of the State of New York.

THE CORRESPONDING SECRETARY acknowledged the receipt of a communication from the Corresponding Secretary of the Nebraska State Medical Society, accompanied by a volume of the Society's transactions.

DR. A. B. JUDSON reported from the Section in Surgery.

DR. H. E. CRAMPTON reported from the Section in Public Hygiene, and asked the Academy to adopt resolutions adopted by the Section, condemning the Cullen Bill already passed by the State Senate, and providing for establishing a manure-dump in the city of New York.

The resolutions went over under the rules, and when brought up subsequently, Dr. Roosa announced that their adoption had been rendered unnecessary by the defeat of the bill in the Assembly.

DR. J. C. PETERS said it was worthy of special note that the defeat of the Cullen bill was due largely, if not entirely, to the vigorous opposition made to it by the committe sent to Albany from the Section in Public Hygiene. The first work of the Section had thus been crowned with success.

DR. H. GRISWOLD reported from the Section in Obstetrics.

DR. STEPHEN SMITH then read a memoir of

ALFRED CHARLES POST, M.D., LL.D.,

which was a calm and dignified exposition of the spotless life and character of our Nestor in Surgery.

DR. A. VANDER VEER, of Albany, N. Y., read a memoir of

S. OAKLEY VANDER POEL, M.D., LL.D.,

which was a chaste, sympathetic, and lifelike delineation of the work and worth of one who had been an ornament to his profession, and whom his profession had been delighted to honor.

THE PRESIDENT, DR. A. JACOBI, read a memoir (see p. 464) of

AUSTIN FLINT, M.D., LL.D.,

in which he paid a glowing and most worthy tribute to the purity, the scholarly acquirements, the eminence, and the great knowledge of his highly distinguished predecessor.

DR. T. HERRING BURCHARD then read a paper (see p. 461) on

PELVIC ABSCESS IN THE MALE,

after which the Academy adjourned.

PROFESSOR R. T. EDES should be credited with the lecture on the subject of "Success in the Medical Profession," referred to in THE RECORD of March 6th. Our account was based upon an Associated Press despatch, which got mixed (as usual). Dr. Edes is Jackson Professor, not Professor Jackson.

THE FIRST USERS OF NUTRIENT SUPPOSITORIES.—Mr. Thomas Latham, of this city, writes: "The *British Medical Journal*, Mr. Godlee, and Dr. Barlow are mistaken in supposing the application of nutrient suppositories to rectal feeding to be a new idea. Upward of ten years ago, while with Mr. Sands, of Vanderbilt Avenue, I prepared such suppositories, using Valentine's extract of beef and sufficient gelatine to solidify the extract, care being taken that the mass was soft enough to be readily absorbed."

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE INFLUENCE OF THE STUDY OF HYGIENE ON THE DURATION OF LIFE—PROGRESS IN THE STUDY OF INFECTIOUS DISEASES—CONTAGIOUS NATURE OF TYPHOID FEVER—THE HARD AND THE SOFT CHANCRE.

PARIS, April 2, 1886.

DR. PROUST, the successor to Professor Bouchardat in the Chair of Hygiene at the Faculty of Medicine of Paris, delivered his inaugural lecture on Saturday last, March 27th, when the amphitheatre was quite crowded, and many of the professors of the faculty also attended to welcome their new colleague. Dr. Proust began his lecture by a graceful tribute to his predecessor Professor Bouchardat, after which he confined himself to the advantages of a proper study and strict application of the principles of hygiene. Before the revolution, the mean duration of life in France was twenty-nine years; it is now from thirty-seven to forty years, and in women it has even been raised to forty-two years. But it is, particularly as regards the mortality in early childhood that this difference is more striking. Before the application of "the law of Roussel," which regulates the duties of nurses toward their nurslings, the mortality used to be thirty per cent. in the Calvados (one of the centres of baby-farming); it is now no more than five or six per cent., it used to be eighty per cent. in the department of the Seine, whereas now it is scarcely twenty per cent. It is also to the progress of hygiene that is due the disappearance of purulent infection from the hospitals, the improved method in dressing wounds contributing in a great measure to the same end. The beneficial results obtained by a more rigorous attention to the principles of hygiene have been in obstetrics still more remarkable. It is not so very long ago when, at the old Hôtel Dieu, a woman awaiting her confinement had to lie in the same bed with a corpse or with a patient suffering from puerperal fever. Even in those times this state of things was strongly condemned, and women of the most sensible class of the community used to go out to the country to be confined. The Constituant then caused the Maternity to be built. In the new hospital, although each patient had her own bed, the mortality was ten per cent., that is to say seventeen times greater than that among women confined in the neighborhood outside the hospital. Professor Tarnier, who is the principal accoucheur of the Maternity, has effected great improvements, which has brought the mortality down to three per cent., and since the strict application of the antiseptic methods during the last few years, it is no more than one per cent. Scurvy, which used to decimate the sailors and those proceeding on long voyages, is now scarcely ever heard of. The disease is due principally to the want of vegetable food, but the administration of lime-juice contributes in a great measure to ward off the disease. During the last thirty years great strides have been made, by means of International Congresses, to prevent the incursion of infectious diseases, and it must be said with some success, a result mainly brought about through the instrumentality of the late Dr. Fauvel, the eminent Academician and hygienist.

At a recent meeting of the Société Médicale des Hôpitaux, Dr. Debove read a note to illustrate the contagious nature of typhoid fever. He was called in to attend five children of the same family suffering from typhoid fever. Another family of six children came from the provinces to live in Paris, which place they reached on November 15, 1885. One of the children was ailing before he left the country. On the 20th he presented all the symptoms of typhoid fever. Another brother was seized with the disease on November 23d and died on January 24th following. A third fell ill on November 29th,

a fourth on December 17th, a fifth on December 29th. The sixth escaped. The children affected with typhoid fever were separated from the others; hygienic precautions were observed, and the linen was disinfected, as well as the dejections, cesspools, and water-closets. From the above cases Dr. Debove concludes that typhoid fever can be contracted by direct contact and added that in Germany it is believed that the germs of typhoid fever are expelled by the dejecta, and, after undergoing certain modifications, are capable of communicating the disease to healthy organisms.

It is usually easy to distinguish the soft chancre from the syphilitic chancre, but as Dr. Balzer observed at a recent meeting of the Société de Biologie, the diagnosis is sometimes surrounded with great difficulty. In this case inoculation is frequently resorted to, but this operation is not always free from danger. Dr. Balzer therefore proposes another procedure, which is applicable to all cases. It consists in examining histologically the products secreted by the suspected ulcerations. If one has to do with a simple herpetic ulceration, it will be found that the secretion contains pus-globules and epithelial cells, the same is the case with a syphilitic lesion. When, on the contrary, it is a soft chancre the latter is found to contain elastic fibres in more or less great number, mixed with the pus-globules and epithelial cells. The explanation of this difference proposed by the author is that herpes and the hard chancre, are ulcerations purely epithelial, whereas the soft chancre is a lesion exclusively dermic. Dr. Balzer had recourse to this means of diagnosis fourteen times, and he was always successful.

Dr. Edward Fournié, the editor of the *Revue Médicale*, died on March 24th after a long and painful illness. He was a distinguished laryngologist and aurist, and was for a long time director of the National Asylum for the Deaf and Dumb. He was fifty-three years of age.

I have also to report the death of Dr. Gillette, which has just taken place at his residence in Paris. He took his degree in 1867, and was a distinguished hospital surgeon.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ROYAL CEREMONY ON THE EMBANKMENT—THE MEDICINE OF THE PAST—CLERICAL LICENTIATES AND BARBER-SURGEONS—SURGICAL MEDICINE AND MEDICAL SURGERY—HEPATIC PHLEBOTOMY—PARACENTESIS FOR BRONCHIECTASIS—SUPRA-PUBIC LITHOTOMY—THE HYDROPHOBIA SCARE—THE LATE MR. STREATFEILD—THE PARKES MUSEUM AND THE SANITARY INSTITUTE.

LONDON, March 27, 1886.

THE past week has been marked by the occurrence of two noteworthy events in the medical world of London—one social, the other scientific. By the former, I mean the laying of the foundation-stone of the new Examination Hall of the Royal Colleges of Physicians and Surgeons, on Wednesday last, by the Queen in person. By the latter, I mean the discussion at the Royal Medical and Chirurgical Society on the treatment of bronchiectasis by paracentesis.

The royal ceremony, on Wednesday last, merits more than a passing word. The actual participation of the nominal head of the State in the proceedings was in itself noteworthy, and the more so considering the virtual retirement in which the Queen has lived of late years. She was, moreover, not the only member of the royal family present. The pageant was conducted in semi-state, and attracted a large concourse of spectators. "Royal weather". favored the occasion, the bitter weather of a week previous, with bleak east winds, having changed by magic, as if on purpose. The laying the foundation-stone of an examination hall does not in itself appear an affair of much importance, but more is implied in the circumstance than appears on the surface. By the erection of a building for their joint use, the two colleges have taken the first step toward their virtual union, and this step has received the patronage of Her Majesty the Queen, of several members of her family, and of many representatives of the Government present in their official capacities. No one can imagine that when the building is completed its spacious chambers will be devoted solely to examination purposes. It is more probable that a new university may see birth in the building in the Savoy, looking down on the Thames, and the events of the past week render it almost a foregone conclusion that the two colleges will not have much difficulty in obtaining a royal charter empowering them to grant degrees in medicine and surgery.

The ceremony on Wednesday last implied a greater recognition of medicine and surgery by the State than has hitherto been accorded. Many readers may be surprised to learn that five centuries ago there was no such recognition at all. It was only in 1422 that any notice was taken of the profession, and then a State order was made that those who had not a university degree should forthwith be examined at one of the universities, on pain of condemnation by the Privy Council. In 1513 the authority of the Church was recognized to such an extent that the Bishop of London was made supreme in authority over the London practitioners, who had to be examined by him, he being *assisted by four doctors of medicine or surgeons!* The provincial Bishops were similarly entrusted with the licensing of country doctors. The London College of Physicians was founded in 1518, by royal letters-patent, and remained under the control of the Bishop of London for five years. In 1523 it was set free by statute, but the Bishops long retained their licensing power. A relic, in fact, still remains in the power which the Archbishop of Canterbury still has of giving degrees in medicine, and which he occasionally exercises. The distinction in question is termed M.D. Lambeth, the archiepiscopal palace being situated at Lambeth, on the south side of the Thames, not far from St. Thomas' Hospital. The degree is nowadays scarcely ever conferred, except on persons already qualified as medical practitioners, though the opposite was frequently the case in bygone years. The first home of the College of Physicians was near St. Paul's. It occupied more than one building in the city, and only removed to its present site at the West End (Pall Mall) in 1825.

The College of Surgeons is of much more modern date. For many years only barber-surgeons existed. A company of these barber-surgeons was formed in 1308, and incorporated, 1462. Subsequently to the latter date the barbers and surgeons quarrelled and separated. They were reunited in 1540, with the proviso that "no barber shall occupy anything belonging to surgery, drawing of teeth only excepted." Distinct surgeons can therefore scarcely be said to have existed till 1540, and even then they and the barbers belonged to the same company. This nominal union persisted till 1745, when the barbers and surgeons again separated, and this time for good. The barbers managed to retain nearly all the joint property, including even the anatomical preparations. The surgeons remained merely a city company till 1796, when through an illegal election the charter was forfeited. A new charter was obtained in 1800, establishing the present Royal College of Surgeons. They were then housed, as now, in Lincoln's Inn Fields, and had just acquired the Hunterian Museum. The present buildings were built in 1813, re-modelled, in 1836, and enlarged in 1852-53. Parliament voted a sum of twenty-seven thousand pounds toward the erection of a museum to contain Hunter's collection. This collection had been, no doubt to their subsequent chagrin, declined by the College of Physicians.

Great have been the changes since the foundation of the two colleges. What would the old barber-surgeons have thought if, flanked by the medical licentiates of the Bishop of London (who would no doubt have snubbed

them heartily), they could have looked down from an adjoining roof on Wednesday's proceedings? They would doubtless have been amazed, but would perhaps have been reassured when, on proceeding to the present College of Surgeons and inspecting the annual calendar, they found the ancient manners still referred to by a formal recital in the present charter (1800) of the former charters and acts of Parliaments granted to the barber-surgeons.

Leaving the past and reverting to the present, I would now claim for the late discussion on bronchiectasis the attention it deserves. The surgery of the viscera is rapidly advancing, and it really seems as if the surgeons were determined every year to encroach more and more on the domain of the physician. The surgeons, if trodden upon in the past, are determined not to be behind in the present. The physicians, to do them justice, are equally eager to avail themselves of surgical methods where desirable. A physician of this era does not send for a surgeon to perform venesection if it be required, but does it himself, usually, unless a general practitioner is in attendance. Dr. George Harley has lately been startling the medical public by performing what he calls "hepatic phlebotomy," for the relief of chronic indurations of the liver. In one case he withdrew a pint of blood in this manner from the hepatic substance. He is about to publish a work on the subject. What a change from the day when a physician is said to have allowed a patient to die because it was beneath his dignity to bleed him, and there was no surgeon at hand to do it!

To return. The discussion referred to was based on a paper prepared jointly by Dr. Theodore Williams and Mr. Rickman Godlee. They described two cases of bronchiectasis which had been successfully treated by them by means of paracentesis. The first was that of a gentleman sixty-seven years of age, who had suffered for two years from chronic bronchitis and emphysema. The expectoration was profuse and fetid. Dr. Williams diagnosed the existence of a bronchiectasis. At his request, Mr. Godlee (having first tapped it with an aspirating trocar and cannula) opened the cavity with antiseptic precautions, and inserted a drainage-tube. The cough nearly ceased, the expectoration became reduced from a pint to a few pellets daily, and also lost its fetor. The patient gained flesh rapidly. The discharge ceased at the end of six weeks, the channel closed, and the wound healed up. Examination of the chest revealed complete disappearance of tubular breathing and shrinking of the chest-wall. Nine months after the operation, the patient remained free from cough or expectoration, and was able to walk four miles.

In the second case, the success attained was not so marked, although considerable relief was afforded. The patient was a girl, aged twenty-one, who, following an attack of typhoid fever, suffered from cough and copious fetid expectoration. Hæmoptysis occurred on three separate occasions—on one of these to the extent of a pint. In this case also paracentesis was performed, though some difficulty was encountered, and an inch of the eighth rib had to be excised before the bronchiectatic cavity could be reached. The wound gradually healed, and when the patient left the hospital there was only slight cough, the expectoration had diminished to about three ounces a day and was only occasionally fetid. The authors considered that the partial success was attributable to the presence of other bronchial dilatations which could not be reached. In four other cases treated by them, complete success was, in their opinion, similarly precluded.

The authors considered that paracenteses of bronchiectases were indicated under the following circumstances:

1. To prevent death from septic pneumonia, where antiseptic treatment had failed to correct the fetor of the sputum and allay the cough.

2. Where the bronchiectases appeared to be confined to one lung, were in the lower lobe, and an adherent pleura overlay them.

Experience had shown the invulnerability of the lung tissue. The operation was not wtihout difficulties, of which the chief was the difficulty of diagnosing exactly the position of the bronchiectasis. This was due to (1) the presence of emphysema; (2) the reverberatory character of the auscultatory sounds in the bronchiectasis.

These difficulties in diagnosis were emphasized by several speakers in the subsequent discussion, the difficulty being considered especially great when total obstruction of a bronchus had occurred. Several of the speakers expressed the opinion that operative treatment should be confined to cases associated with fibrosis and adherent pleura, but Dr. Williams and Mr. Godlee expressed their unwillingness to concur with this view. There was some discussion as to the danger of hemorrhage. It was admitted by most that this danger was but slight, though hemorrhage might occur, and the possibility of this should not be overlooked. Mr. Godlee acknowledged the possible danger of hemorrhage. When the patient's mouth became full of blood, he thought a bronchial vessel must have been wounded, and, under deep anæsthesia, this might cause suffocation. Sir Andrew Clark suggested that hemorrhage might be prevented by sclerosis of the arteries diminishing their calibre. Fibrosis was generally present, he remarked, and in fibroid tissue the arteries participated in the sclerosis.

LONDON, April 3, 1886.

The Royal Medical and Chirurgical Society held a special meeting on Tuesday last to discuss the subject of supra-pubic lithotomy. The discussion occupied the whole evening, and was participated in by many of the leading authorities on the subject, both metropolitan and provincial.

Mr. Barwell, of Charing Cross Hospital, read a paper on the subject, narrating some cases. In one, a girl of nine, a stone measuring over two inches in its longest diameter was extracted by the supra-pubic operation. The child suffered nothing after the operation, and the wound healed in a fortnight. Mr. Barwell said that the high operation had been too much neglected, and might with advantage be used in other cases than those of very large stones. There was no danger of a permanent urinary fistula, and that of urinary infiltration might be avoided with care. The peritoneum could be raised by injecting the bladder, and as it was barely attached to that viscus, it yielded upward to the slightest touch of the finger. Mr. Barwell maintained that for female children no other form of lithotomy should be practised.

Mr. Rivington, of the London Hospital, read the notes of a case in which he had employed the supra-pubic operation to remove an unusually large stone. The patient had suffered from symptoms of stone for sixteen years, but no stone could be detected on sounding, though on rectal examination a large, round, smooth swelling was detected in the situation of the prostate gland. Median urethrotomy for the purpose of exploration was performed, when it was found that the hard mass was not connected with the prostate, and that the bladder-wall was pressed over to the right by it. A sound pushed far back at length struck a stone. It was grasped by forceps, but could not be moved. Supra-pubic lithotomy was then decided on, and was performed. The stone was found to be contained in a pouch. It could not be moved with forceps, and the lithotrite was found equally useless. The calculus was therefore broken up with a chisel and mallet. The pieces removed weighed collectively twenty-three ounces. The patient recovered from the operation, but cystitis came on some months later, the urine became ammoniacal, and death ensued. At the autopsy, suppurative inflammation of the left kidney was found, with inflammation of the bladder and the pouch in the latter. Mr. Rivington remarked that though

not absolutely the largest stone ever removed from the human bladder during life, it appeared to be the largest removed during life with recovery of the patient from the immediate effects of the operation.

Mr. Jacobson, of Guy's Hospital, read an account of a case in which the high operation had been performed. The patient was a laborer, aged nineteen, who had suffered from bladder irritability all his life, from symptoms of stone for five years, and from cystitis for one year. The sound showed several stones to be present. The supra-pubic operation was selected in consequence of the long duration of the symptoms, and the probability that the kidneys were impaired. The bladder was distended with water (ten ounces), and the rectal bag introduced. The peritoneum was not seen. Only one stone was found at the operation, but two smaller ones escaped through the wound some weeks later, following a rather severe venous hemorrhage. Mr. Jacobson maintained that the operation had a future of revived usefulness before it; and that it would be found of great value by operators who only had to deal with stone occasionally, and who found themselves face to face with good-sized stones in adults. He thought it wise not to attempt to close the bladder with stitches.

A discussion then took place on the papers read. This was opened by Sir Henry Thompson, who prefaced his remarks with a brief tribute to the value of Bigelow's work. The alteration in lithotrity resulting from Bigelow's treatment had, he said, changed the conditions under which lithotrity was now performed, and left a different category for those cases requiring a cutting operation. Stones of two ounces could be removed safely by lithotrity, but an operation was needed to meet cases of stones of over two ounces or two ounces and a half. He agreed with the opinion expressed by both foreign and English surgeons, that the surgeon with little experience or skill had better use a cutting operation, and the best for him was a supra-pubic lithotomy adopting the modern improvements. He considered distention of the rectum valuable, as not only increasing the supra-pubic interval, but as rendering the bladder immobile and raising it out of the pelvis. The views of Bouley and Hildamus were quoted. The latter had shown that in children it was possible to push up the stone above the margin of the pubes by pressure within the rectum. Rectal distention was also valuable in removing large tumors of the bladder by the supra-pubic operation. Sir Henry Thompson concluded his remarks by saying that in supra-pubic lithotomy the wound should not be closed for some days.

Mr. Cadge, of Norwich, thought we should be cautious in our deductions. He was not sure that we ought yet to conclude that the lateral operation might be abolished in favor of the new supra-pubic method, and thought many of the already reported cases might have been dealt with by the former method. He agreed with Mr. Barwell that distention of the rectum was not of much value in raising the prævesical fold of peritoneum, but that it was mainly useful in raising the fundus. Mr. Cadge admitted that an advantage of the high operation was the fact that no stone could be left behind, an occurrence which might happen with the lateral operation. Freedom from hemorrhage had been quoted as another advantage of the high operation, but decided hemorrhage had occurred in three out of twelve cases reported that evening.

Mr. R. W. Parker, of the East London Hospital for Children, had performed the high operation once, and found it easy of performance. He could not go as far as Mr. Barwell in recommending it for female children, and had found urethral dilatation satisfactory in them.

Mr. Bryant, of Guy's Hospital, considered the supra-pubic operation to be probably preferable in dealing with all large stones, especially if there were any kidney disease, though the latter complication would render any operation more dangerous. He concurred with Mr. Parker that in females rapid dilatation of the urethra followed by lithotrity would prove sufficient in most cases.

Mr. Lund, of Manchester, urged that the supra-pubic operation entirely removed the danger arising in the lateral operation from bruising of the tissues. The use of anæsthetics rendered the revival of the supra-pubic operation more easy, as by employing them the pain arising from lifting the floor of the bladder was avoided.

Messrs. Barwell, Rivington, and Jacobson then replied. Mr. Barwell admitted the possible danger of distending the rectum, especially in old people. Mr. Rivington remarked that in females he should mostly prefer vaginal lithotomy, unless the stone were very large. He had, however, removed (by vaginal lithotomy) a stone measuring six inches by five inches, and the wound healed by first intention. Mr. Jacobson recognized the danger of distending the rectum by more than twelve or fourteen ounces of fluid, but expressed his general preference for the supra-pubic operation.

The hydrophobia scare continues, and the "dog order" has been renewed for a further period. According to this, any dog not led or muzzled, or otherwise under control, may be seized by the police, and, if not claimed by his owner, destroyed. The "dog order" may be disagreeable to owners of dogs, but has certainly been beneficial to the public at large, as it has led to a large number of stray dogs—many of them probably diseased in some way, even if not rabid—being seized and destroyed. Thousands of dogs have been killed at the "Dogs' Home," the process employed being to painlessly asphyxiate them in the lethal chamber devised by Dr. B. W. Richardson, F.R.S. Their bodies have been sent into the country, and used as manure. Meanwhile a Hydrophobia Commission is about to be appointed. Although many still exercise a wise scepticism as to Pasteur's results, the opinion is growing that there is something in it, and the appointment of a committee is virtually brought about by the pressure of public opinion.

I lately chronicled the death of Mr. Wordsworth. Another distinguished ophthalmic surgeon—Mr. Streatfeild—has also joined the majority. Like Mr. Wordsworth, he also served as a surgeon in the Crimean War before he commenced his career as an ophthalmologist.

The Parkes Museum and the Sanitary Institute are about to be amalgamated.

ACTINOMYCOSIS IN MAN.

To the Editor of The Medical Record.

Sir: Having read an article entitled "A New Form of Lung Disease" in the March 20th number of The Record, I thought I might profitably contribute on the same subject, more especially because the article has an unimportant error or two. The author of the article made a mistake in attributing to Ponfick the discovery of the germ in the human subject. To Israel, of the Jewish Lazarette, Berlin, belongs that honor, *vide Virch. Arch.*, vols. lxxiv. and lxxviii., *Centralblatt f. Med. Wiss.*, 1883. Ponfick was the first who proved the identity between the actinomycen of men and cattle (Ziegler). But preceding this I have the personal statement of Professor v. Esmarch, that thirty years ago, while he was first assistant to Professor v. Langenbeck, in the microscopical examination of some peculiar-looking pus, from a supposed case of vertebral scrofulosis, he discovered this peculiar- (strahl pilz) looking pilz (germ). He submitted his specimen to his chief, who concurred that it looked like a germ. Professor v. Esmarch made copies of the preparation, which he says he still has in his possession, and was not surprised, when he read the description of Israel, to find that his supposed case of scrofulosis had really been one of actinomycosis. Professor v. Esmarch made this statement before *Ober Staats Arzt*, Albert Köhler, first assistant to Professor Bardeleben, and my-

self (apologies for any breach of courtesies, for I was Dr. Köhler's guest). So this gives Professor Esmarch the credit, and no doubt he deserves it, of being the first discoverer of the germ actinomycen. Professor Esmarch said he had had success in treating the disease by free drainage and free irrigation, and parenchymatous injection of saturated solution of boric acid, frequently used. All observers agree that it is a most malignant germ. The disease, as far as known, occurs in three forms, namely, lung actinomycosis, intestinal actinomycosis, and general actinomycosis. The first form is very well described in the article in THE RECORD. The second form begins primarily in the intestine, and rapidly spreads to the tissues. It has a selective predilection for connective tissues. It generally makes its appearance in the parietal fold of the pelvic fascia, and in the right inguinal region, and may easily be confounded with osteosarcoma of the ileum, if the history of the time of evolution is not carefully taken into account. It is with this form that Esmarch has had the most success with his method of treatment. The third, or general form, was the variety that Israel described. Infection generally goes out from the mouth, by the germs getting under the gums to the alveolar ridge, or infection may take place through a decayed tooth; in fact, the germ has been found in the normal state in the crypts of the tonsils, in the nasal ducts, and in hollow teeth. Bergmann says it is quite the rule to find them in the tonsils of swine, and illustrates the truth of the statement with many specimens. From the mouth the germs progress into the deep cervical fascia, thence down the vertebræ into the mediastinum anterior and posterior, causing mediastinitis, and caries of the bodies of the vertebræ, ribs, and sternum. Infection progresses in nearly all cases by local progression, seldom by metastasis. Of all tissues in the body, it probably has the greatest affection for the connective tissue about the spinal column. The principal diagnostic characteristic of the disease, microscopically speaking, is the presence of innumerable little straw-yellow bags, about the size of a pin-head, which contain the specific germ (Virchow), and on this account making it different in appearance from any other sort of pus. Another diagnostic sign is the severity of its local processes, but with every aid the diagnosis is usually difficult. The disease it is most likely to be confounded with, generally speaking, is *general tuberculosis*.

Respectfully,

A. R. JENKINS, M.D.

HENDERSON, KY., March 24, 1886.

[Our correspondent is himself in error in his criticism of our editorial. Israel published two cases shortly after Bollinger's communication, but he regarded it as a peculiar form of septicæmia, and not as identical with the disease described by Bollinger. Esmarch also, although he recognized a peculiar disease, did not understand its nature.—ED.]

THE PATHOLOGICAL FUTURE OF THE NEGRO.[1]

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The negro in towns and cities is in a much better condition as to longevity than in the country, although our census reporter may make a different statement for political purposes. The fact is, in towns and cities negroes are better fed, clothed, and housed, and when sick usually receive very good medical attention; in the country it is the very reverse.

In most Southern States where there is a preponderance of negroes we have what is called stock, or no fence law; the object is to prevent the negro from accumulating, and to make him a hewer of wood and drawer of water as long as he lives. Now, what is the result? It makes him in the country dependent on the landlord, who is dependent on the commission merchant, who often is dependent on the courtesies of the banks for accommodations (financial).

Let one of these negroes get sick, say with any protracted disease—say even pneumonia, which we all know is terribly fatal to the black man. By the time the landlord becomes responsible for, say two or three visits—which he will do if there is a fair prospect for a crop (and if the crop is gathered in the winter months he will not, only in very exceptional cases), he will serve notice to the doctor that he will not be responsible for any further medical attention. What is the end of it generally? A pauper's coffin and a pauper's burial.

There are plantations ten to twenty miles remote from railroads and rivers where before the war you could find from fifty to three hundred negroes; now they are the *huntsman's home*. He kills his game on lands that in days gone by would produce from one-half to one bale of cotton to the acre.

Negroes, appreciating the disadvantages of living away from them, have clustered around towns, etc. You would infer from this, as some of our Southern Democratic friends would tell you, that it would swell our population proportionally; but that this is not so, is my observation. Our white population is gradually increasing, but the reverse is the case with the negro.

(Our correspondent here inserts a table of the vital statistics of one of the smaller Southern cities, which shows a death-rate among the colored twice as great as that among the whites, and adds:)

The negro race in this section, there is no doubt, is gradually diminishing. An honest vital statistic report would verify this assertion. I have very little hope for the colored doctor in the South. Some few will succeed, but many will fall by the wayside of temptation. They will have to live out of (so to speak) a penniless community. They can never attain eminence and have the confidence of their race, because of their poverty, being unable to keep up appearances. You know this is a peculiar characteristic of the colored man. He wants to imitate his employer, even in getting a doctor. Pardon me for writing so long a letter, but this is a subject in which I have been long interested. Respectfully,

* * *

[1] Referring to THE RECORD of March 6th.

OTOLOGY AT THE UNIVERSITY OF AMSTERDAM.

A MODIFICATION OF POLITZERIZATION—MOUTH-BREATHING—A SIMPLE INSUFFLATOR—ACCIDENT IN TONSILLOTOMY—INSPISSATED CERUMEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The methods of Dr. A. Guye, Professor of Otology in the University of Amsterdam present some novel and interesting features, which are here reproduced for the readers of THE MEDICAL RECORD.

The clinic is held at the Binnen Gasthuis (Central Hospital) of Amsterdam, at the head of the canal Oude Zyds voor Burgwal, on Monday and Friday, from four to five P.M. From thirty to forty patients are generally in attendance. There are fewer that are able to pay than with us. At the first visit patients are examined with more care than I have observed at many clinics. At the subsequent visits they are handled rapidly, as from the nature of the cases the treatment is more or less routine. The name, age, and other items, are entered in a register, and also a drawing of anything of interest about the membrana tympani. Before Politzerization the professor always cleanses the nares, using a small bulb-syringe, with water at a temperature of 70° or 75° F., as he thinks the use of water at a higher temperature predisposes to attacks of acute coryza.

After two or three syringefuls are thrown into the nostrils the patient is directed to blow his nose, after which the bag is used in the usual manner. It is surprising that nature's method of cleansing the upper respiratory tract

is not more largely used. In very young children he has modified Politzer's method by having an assistant pour a teaspoonful of water into the mouth of the crying cherub, who involuntarily swallows it, when he at once presses the bag.

The so-called adenoid vegetations are scraped away with the finger-nail, scraping from before backward. A scraper is sometimes used for the same purpose, which is a device of the doctor's invention. It consists of a handle long enough to reach the pharyngeal cavity, to which is attached, at right angles, a blade one inch long, one-fourth inch wide, and one line in thickness, the end of which is bevelled to a dull edge. With this instrument no harm can be done to the normal mucous membrane. It would probably be more effective if it were a little wider.

Chronic nasal catarrh he treats with :

℞. Ammonii chloridi 40.00
Sodii chloridi 80.00
Aquæ..... 400.00
M. et ft. sol.
Sig.—Teaspoonful in a glass of water to wash the nose, t.i.d.

For this purpose the patient is furnished with a bulb-syringe, and instructed to cleanse the nasal cavity in the manner above described. After cleansing the nostrils a snuff is insufflated. The doctor's insufflator, for simplicity and cheapness, cannot be excelled. It consists of a rubber tube, into each end of which a goose-quill is inserted. It answers the purpose as well as more elaborate instruments.

Mouth-breathing he treats with a contra-respirator. This is a simple but useful instrument, consisting of an oval piece of leather, to which tape is sewed, so that it may be tied over the mouth. These patients are furnished with a copy of the following circular, which is printed in Dutch, English, German, and French :

"THE CONTRA-RESPIRATOR AND RESPIRATION THROUGH THE MOUTH.

"Respiration through the mouth is a bad habit which is very common, the pernicious consequences of which have been shown by Mr. Catlin in his book 'Shut your Mouth;' by Mr. Paul Neimeyer, in Magdeburg, and others. The habit originates, generally, from a catarrh of the nose or cold in the head. Respiration through the nose costs them too much effort, and the mouth is opened accordingly. But when the passage through the nose is free again, the bad habit very often persists, and causes a fresh catarrh or swelling of the nose, because the normal quantity of air is not passed through it. The results of respiration through the mouth are injury to the teeth by exposure to cold and dry air; various diseases of the throat and chest, by the dryness of the mucous membrane of the throat, and by the small foreign bodies, dust, smoke, etc., which would otherwise be kept back by the mucous membrane of the nose. As a sequel to the catarrh of the nose and throat, very often follow deafness, and other diseases of the ear.

"The consequences of respiration through the mouth are specially injurious during sleep, because then the disagreeable and pernicious dryness is not felt, and can accordingly attain a much higher degree. The bad influence of sleeping with the mouth open can be seen daily by comparing the calm, refreshing sleep of one sleeping with his mouth shut, with the restless, painful sleep, often degenerating into a nightmare, of another sleeping, ofttimes snoring, with the mouth wide open.

"The contra-respirator is used very effectually against the bad habit, especially in the beginning. When in bed fasten it so that it very slightly presses on the lips. Should it prevent sleep, take it off after some time, say ten minutes, trying it every night for the same length of time.

"After a few days you fall asleep easily with it on, and after a shorter or longer period you learn to sleep with your mouth shut without the use of the contra-respirator.

"When there are obstructions in the nose, which prevent absolutely respiration with the mouth closed, of course the use of the contra-respirator alone is not sufficient, but a medical man must be consulted, who should examine and treat the mucous membrane of the nose. By neglect polypi and other diseases of the nose may be occasioned."

For excoriations about the nose :

℞. Tinc. benzoin 1.00
Vaselinæ 10.00
M. Sig.—For external use.

Pleasant for its agreeable odor. Note that the compound tincture is not to be substituted in the above formula. It is also useful in chapped nipples.

In performing a tonsillotomy on a young man, about seventeen years of age, with the Fahnestock instrument, the blade broke when the operation was about half completed. The instrument was fast in the tonsil, and could not be with drawn until it was dissected out with a scissors. On examination it was found that about one-half inch of the blade was missing. The patient remained in Amsterdam until the fourth day. Returning home on the boat, he was seized with a pain in the bowels, and a diarrhœa. He passed several stools, which he did not examine, as he had been instructed. The missing part of the blade was never discovered. The doctor had had a similar experience before, but did not think that two accidents in as many thousand cases was any argument against the use of the instrument.

Inspissated cerumen, says the doctor, is caused, not by increased secretion, as the books say, but by diminished secretion. The wax is too dry to be removed by natural means. The accumulation is but a symptom of a disease of the middle ear. After it has been removed several times the patient presents himself with the usual deafness, but no wax. To prevent the accumulation olive oil is dropped into the meatus, three drops once a week.

As a diagnostic point, headache due to congestion of the frontal sinus is relieved by Politzerization. This is cured by treating the nose. In using the Politzer bag the impulse is normally greater in the ear on the side opposite to the nostril in which the bulb is introduced. If it is felt in the ear on the same side, it is due to some pathological condition.

FRANK T. SMITH, M.D.

AMSTERDAM, HOLLAND, March 1, 1886.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 11, to April 17, 1886.

PATZKI, J. H., Captain and Assistant Surgeon. Relieved from duty at Jackson Barracks, La., and ordered for duty as Post Surgeon at Mount Vernon Barracks, Ala. S. O. 75, Department of the East, April 12, 1886.

HOFF, JOHN VAN R., Captain and Assistant Surgeon. Leave of absence extended eleven months, with permission to leave the United States. S. O. 85, A. G. O., April 12, 1886.

BARNETT, RICHARDS, Captain and Assistant Surgeon. Granted leave of absence for two months. S. O. 16, Division of the Atlantic, April 12, 1886.

WALES, PHILIP G., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months. S. O. 85, A. G. O., April 12, 1886.

New Instruments.

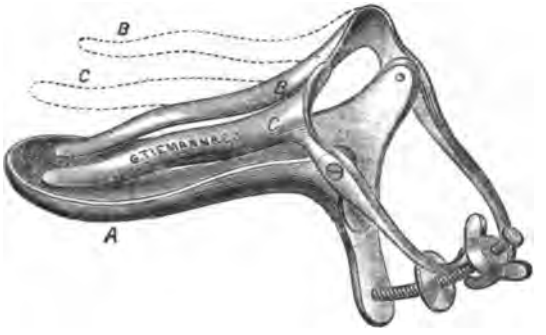
IMPROVED VAGINAL SPECULUM.[1]

By JOHN BLAKE WHITE, M.D.,
VISITING PHYSICIAN CHARITY HOSPITAL, BLACKWELL'S ISLAND, N. Y.

The speculum we use to-day is a composite instrument, the result of successive improvement at the hands of experts.

Although important features about it have from time to time been added, not one alone of these instruments can be relied upon to the exclusion of the rest. There is, therefore, latitude yet open for the exercise of invention to those who are in the habit of employing the various forms of this essential auxiliary to diagnosis and treatment of uterine diseases.

Having been, therefore, by experience, made sensible of the want of certain features about even the most practical form of speculum now in use, I ventured into the field of invention and directed one of the following pattern to be made. Its success in my own hands, and that of a few of my professional friends, for the past three years, in facility of introduction, in readiness of adaptability and perfect command of the parts to be examined and treated has been so satisfactorily demonstrated that I have esteemed it a duty I owed to the profession to place it at the option also of those from whom I have at various times received similar favors:



The lower blade, *A*, is so constructed that, when introduced, it follows the posterior vaginal wall, which, owing to the concavity of the sacrum, is curved, and the cup-shaped extremity rests directly behind the cervix uteri.

If the uterus is displaced, the curved end of the speculum will assist in bringing the cervix into view. By its aid the vagina is more easily distended posteriorly and inferiorly. The two upper blades, *B* and *C*, are concavo-convex, so that full dilatation may be effected superiorly at points where least resistance is offered by the anatomy of the region.

The part of the pelvis through which the vagina courses and admits a speculum, contains no organ or tissues that can possibly suffer by considerable distention of the vagina. This fact is well shown during the act of parturition.

The Sims speculum is rendered far more useful, constructed in accordance with this natural vaginal curve posteriorly.

The cylindrical specula are also more useful when made to conform more fully to this posterior vaginal curve. The improved Nott's speculum has another advantage in that the two upper blades, *B* and *C*, are so arranged that they admit of independent action, which device enables the operator to lift one or the other lateral half of the vagina as he may desire. This mechanism facilitates the search for the cervix uteri, especially in displacements.

The introduction of the uterine sound, as well as tents, is rendered more practicable when this curved speculum is used, and local treatment of the endometrium can be far more thoroughly and satisfactorily accomplished. When this instrument is closed for withdrawal, the folds of the vaginal mucous membrane are less apt to be pinched than with the other trivalve specula. A smaller-sized instrument than the one presented should be used in nulliparous vaginæ.

941 MADISON AVENUE.

[1] Presented at a meeting of the Manhattan Medical and Surgical Society, February 6, 1886.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 17, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
April 17, 1886.....	2	6	52	7	11	61	6	0
Deaths.								
April 17, 1886.....	1	4	13	4	1	26	2	0

THE LATE DR. S. OAKLEY VANDER POEL.—At a recent meeting of the Faculty of the Medical Department of the University of the City of New York, the following minute was adopted:

Whereas, The Faculty has heard with the deepest regret the unexpected announcement of the death of their late colleague, Professor S. Oakley Vander Poel, M.D., and hereby tender their sincere sympathy to the members of his family, in the great loss which they have sustained;

Resolved, That the distinguished abilities of Dr. S. O. Vander Poel, and the services which he rendered for so many years, and with such universal acceptance to the whole country, in the important public trusts which he held as a medical man, rendered him peculiarly well-fitted for the duties of the Chair of Public Hygiene, which he held in this College, and which he discharged to the great advantage of the institution:

Resolved, That while his high qualities as a man commended him to the esteem of all, his personal characteristics caused his friendship to be highly prized, and will make his loss to be long felt by all who came into relations with him.

CHARLES INSLEE PARDEE,
Dean.

THE LATE DR. GASPAR GRISWOLD.—At a meeting of the Alumni Association of the Bellevue Hospital Medical College, held Saturday, April 3, 1886, the following resolutions were adopted:

Whereas, It has pleased Almighty God in his mysterious Providence to remove by death one of our number, Gaspar Griswold, M.D., M.R.C.S.;

Resolved, That the Alumni Association of the Bellevue Hospital Medical College hereby expresses a sense of its great loss in the death of Dr. Griswold. Although

young in years he had already taken a prominent place in the profession, and gave promise of great usefulness and eminence. He was direct and practical as a teacher, genial in his manner, kindly and considerate toward others, an honor to his Alma Mater and the medical profession. This Association particularly feels that in his early death it has lost a much respected and most valuable member.

Resolved, That the Association tender most respectfully to the family of Dr. Griswold this expression of its profound sympathy.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the medical journals of this city for publication.

A. A. SMITH,
V. P. GIBNEY,
L. PUTZEL,
Committee.

R. VAN SANTVOORD, M.D.,
Recording Secretary.

THE NEW NAME FOR TARTAR ON THE TEETH.—There once was a trouble known as tartar on the teeth, but of late some enterprising dentists have named this "Rigg's Disease," a condition requiring "treatment" in place of the old-fashioned scraping off the tartar.

SYPHILIS IN THE THIRTEENTH CENTURY.—It is commonly believed that syphilis first made its appearance in Europe toward the close of the fifteenth century, about the time of the discovery of America by Columbus, and it has even been said that it was brought from the new world by some of the virtuous followers of the great discoverer. Some recent researches of Dr. Leon Duchesne would seem to show, however, that its origin was at least two centuries earlier than this (*Journal de Médecine de Paris*). In a surgical work compiled by Theodoric, a Dominican monk, in 1250, a chapter is devoted to the *malum mortuum*, and a treatment by means of mercurial inunctions is recommended. Lanfranc, of Milan, in his treatise on surgery, composed in 1296, has a chapter on "Chancre and Ulcer of the Penis in Man." Guillaume de Salicet and Gérard, in their works on surgery, written during the same century, also describe a disease which could be no other than syphilis.

BREATHING COLD AIR IN A WARM ROOM.—An apparatus is advertised in Europe by which a person is enabled to breathe the air from without while sitting indoors in a warm room. It consists of a simple tube, communicating through the window with the external air, to one end of which an attachment to fit over the mouth and nose is attached. The inventor claims that, as tubercle bacilli are destroyed by a low temperature, so pulmonary phthisis may be cured by breathing frosty air through this apparatus.

ANOTHER CURE FOR RABIES.—A Hungarian journal states that seventeen individuals were recently bitten by a mad dog in the town of Varadino. A peasant named Nemcsics offered to cure them, and as they were unable to bear the expense of a visit to Pasteur, they accepted his offer. One of the number relates that the peasant made them drink a fluid of a red color, tasting like brandy, and containing what seemed to be little pieces of Spanish fly. In a short time they were seized with excruciating pains, had attacks of furious mania, and finally became unconscious. When they came to themselves they felt great hunger, combined with a repugnance to every kind of food. Nemcsics thereupon declared that they were cured, and up to the time of the report none of them had had any symptoms of rabies.—*La Riforma Medica.*

A SINGULAR CASE OF IRRESPONSIBILITY THROUGH DRINK.—M. Legrand du Saulle, in his work on legal medicine, reports a little-known fact relative to the private life of Peter the Great. On a certain occasion, shortly after his second marriage, this monarch desired to send a very urgent message to the Czarina, and entrusted it to a Frenchman named Villebois to deliver in person. The weather was very cold, Villebois liked his vodka, and when he arrived at his destination he was very drunk. The Czarina was in bed, and her ladies retired when the messenger from the emperor was introduced. At the sight of the young and beautiful woman he became furious and precipitated himself upon her, and although assistance was speedily obtained the honor of the absent husband was not saved. Villebois was put in the lock-up, and at once fell asleep, and could not be aroused even after the Czar, who had been summoned in great haste, arrived. Peter, who had good reasons to excuse drunkenness, contented himself with sending the Frenchman to the galleys. In six months he granted him a pardon and reinstated him in his former office.

CONGRESS OF RUSSIAN PHYSICIANS.—On January 7th (December 26th, O. S.) the first Congress of Russian physicians was opened with much ceremony in St. Petersburg. The proposal to hold an annual convention of this sort has been under consideration for a number of years, but it is only now that the project has been realized. The Congress will be held each year, alternately in Moscow and St. Petersburg. The President of the Congress was Professor Krassovski; Dr. Ebermann, Secretary; Dr. Sutugin, Treasurer. The meeting was closed on January 12th (December 31st).

SOAP IN THE PREPARATION OF CERTAIN OINTMENTS.—When it is desired to combine oil of cade with vaseline or glyceride of starch, it is impossible to make a homogeneous mixture. But, according to Pierre Vigier (*Gazette Hebdomadaire de Médecine et de Chirurgie*), a perfectly smooth ointment can be made by adding one part of soap and two of water to thirty parts of the ointment desired.

A PREMIUM FOR LARGE FAMILIES.—A decree was recently enacted in France reaffirming the law of the 29th Nivôse, year XIII., according to which every father of a family having seven living children may have one of his sons educated at the expense of the State. The object, of course, is to increase the population of the country, and the immediate occasion of the decree was the publication last year of statistics showing a large falling off in the average size of families in France.

AN OPENING FOR PHYSICIANS IN INDIA.—According to a letter in an Austrian journal, a most promising field for medical practice exists in India, especially in the inland parts of the peninsula. There is plenty of sickness, and physicians receive large fees. A knowledge of the language, sufficient for all practical purposes, is readily acquired, and beyond that, the writer states, nothing is needed for the acquisition of a large practice and a handsome income.

THE POETRY OF ATTENUATION.—In THE RECORD of October 24th appeared the following:

Little drops of water,
Little grains of milk,
Make the little doctors
Of the homœopathic ilk.

A correspondent from Massachusetts supplements this:

Precious little bottles,
Sitting in a row,
Filled with potent liquid
Known as H_2O.

A drop of Mother Tincture,
Humble though it be,
Makes the tenth dilution
When poured into the sea.

Of all the gulls delusive
The greatest is to know
Where lies the healing power
In a drop of H_2O.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 18 NEW YORK, MAY 1, 1886 **Whole No. 808**

Original Articles.

THE MALARIAL "GERM" OF LAVERAN.

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THE space and time at my disposal will not permit me to preface this paper by a recapitulation of the arguments in favor of the view that the malarial fevers—properly so called—are due to the presence, in the body of those attacked, of living "germs" or micro-organisms. This view was suggested by Lucretius (95 B.C.), and was ably advocated in this country as long ago as 1859 by Dr. Mitchell, of Philadelphia. Nor can I refer to the earlier claims to the discovery of a specific malarial germ. But before proceeding to a consideration of the "malarial germ of Laveran," the discovery of which was announced in a communication to the French Academy of Medicine, dated November 23, 1880, I desire to refer briefly to the claim made during the previous year (1879) by Professor Klebs, the distinguished German pathologist, and Professor Tommasi-Crudeli, of Rome. These gentlemen, as a result of an experimental research made in Rome, with material obtained from the malarious marshes in the vicinity of that city—Pontine Marshes—announced the discovery of their *bacillus malariæ* in a communication published in German in Klebs' *Arch. f. exper. Path. u. Pharmakol*,[1] and in Italian in the "Trans. R. Acad. Lincei."[2] This alleged discovery attracted great attention at the time, and considerable evidence, which seemed to strongly support the claim made, was subsequently offered by several independent observers—Marchiafava, Cuboni, Marchand, Ziehl, Ceri, and others. It is not surprising, therefore, that by many physicians the *bacillus malariæ* was accepted as a veritable contribution of modern science to our knowledge of etiology, and as entitled to rank with the spirillum of relapsing fever, the anthrax bacillus, and the tubercle bacillus of Koch, among the demonstrated disease germs. The fact that no well-informed person any longer maintains this view, shows how easy it is to be mistaken in estimating the value of experimental evidence, and of recorded microscopical observations, in this new and difficult branch of pathological investigation.

Soon after the publication of the memoir of Klebs and Tommasi-Crudeli, the writer, under the direction of the National Board of Health, made a series of control experiments in New Orleans, as a result of which the following general conclusions were reached:

"Among the organisms found upon the surface of swamp-mud, near New Orleans, and in the gutters within the city limits, are some which closely resemble, and perhaps are identical with, the *bacillus malariæ* of Klebs and Tommasi-Crudeli; but there is no satisfactory evidence that these, or any of the other bacterial organisms found in such situations, when injected beneath the skin of a rabbit, give rise to malarial fever corresponding with the ordinary paludal fevers to which man is subject."

"The evidence upon which Klebs and Tommasi-Crudeli have based their claim of the discovery of a *bacillus malariæ* cannot be accepted as sufficient; (*a*) because, in their experiments and in my own, the temperature curve in the rabbits experimented upon has in no case exhibited a marked and distinctive paroxysmal character; (*b*) because healthy rabbits sometimes exhibit diurnal variations of temperature (resulting, apparently, from changes in the external temperature) as marked as those shown in their charts; (*c*) because changes in the spleen, such as they describe, are not evidence of death from malarial fever, inasmuch as similar changes occur in the spleens of rabbits dead from septicæmia produced by the subcutaneous injection of human saliva; (*d*) because the presence of dark-colored pigment in the spleen of a rabbit cannot be taken as evidence of death from malarial fever, inasmuch as this is frequently found in the spleens of septicæmic rabbits."[1]

Notwithstanding the "confirmatory evidence" subsequently published by several Italian observers, the writer remained skeptical with reference to the *bacillus malariæ*; and in 1884, when my work on "Malaria and Malarial Diseases" was published, I was not prepared to admit that the more recently discovered germ of Laveran was entitled to any greater confidence. Referring to this I say:

"These observations of Laveran and of Richard are entitled to equal consideration with those of the Italian observers who find the *bacillus malariæ* in the blood of their malarial-fever cases in the vicinity of Rome.

"We cannot doubt that a true account has been given in both cases of what the observers believe they have seen. But there is a wide field for doubt as to the deductions made from the various observations recorded; for in microscopical studies of the blood made with high powers there is a great liability to error, and to misrepresentation of what is seen. We may question, for example, whether the belief of Laveran and Richard that the appearances noted by them are due to parasitic invasion of the blood-corpuscles is well founded, without calling in question the accuracy of their observations.

"As the Italian observers make no mention of the *oscillaria malariæ* of Laveran, and as the French observers seem not to have encountered the *bacillus malariæ*, each series of observations is, in a negative way, opposed to the other. It is evident, therefore, that physicians in this country who wish to know the exact truth as regards the nature of malaria will do well to investigate for themselves, or at least to encourage investigations at home by those who seem fitted by education and inclination[2] to undertake them."[3]

The argument here used as regards negative evidence from Italian investigators has no longer any force, for the discovery of Laveran is now confirmed by Marchiafava and his associate Dr. Celli.[4] The fact that Marchiafava formerly published observations which he supposed to be in favor of the alleged discovery or Klebs and Tommasi-Crudeli, and that so far as national or personal prejudice can influence a scientific man he would naturally have a bias in favor of the *bacillus malariæ*, gives to his evidence relating to the parasite described by Laveran especial value.

The object of the present paper is to give an account of the researches referred to, and to introduce to the

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[1] Vol. xi., pp. 311–398. [2] Sulla natura della Malaria, op, cit., vol. iii.

[1] Special Report to National Board of Health, N. B. of H. Bulletin, No. 44, April 30, 1881.

[2] The writer has been extremely anxious to continue his investigations relating to the etiology of the malarial fevers, commenced in New Orleans in 1880, and especially to search for the malarial germ of Laveran, but has not had an opportunity of meeting with typical cases since the date mentioned (until quite recently in Rome), having been stationed for three years at an extremely healthy post in San Francisco harbor, where researches of this kind were quite out of the question.

[3] Op. cit., p. 75.

[4] Nuove richerche sulla infezione Malarica, Archiv. per le Sci. Mediche, vol. ix., No. 15, 312–340.

profession in this country this interesting blood-parasite, which was demonstrated to the writer, by the gentlemen named, during a recent visit to Rome, and which there is good reason to believe is the long-sought malarial germ.

It will first be desirable to call attention to certain dark-colored granules and irregular masses of pigment which have long since been recognized by pathologists in the blood and tissues of the victims of malarial disease, and which are considered pathognomonic of such affections. The earlier observers were in doubt whether the pigment-granules found by them in the blood during life, or post-mortem, were formed *in situ* or distributed from the spleen, where similar pigment is found in considerable quantity. The latter view was supported by Virchow,[1] by Frerichs,[2] and by Mosler.[3]

The first-named author having discovered numerous pigmented cells in the blood and in the spleen of an individual, who died of dropsy resulting from repeated attacks of intermittent fever, maintained that the pigment in the blood has its origin in the spleen. Frerichs, in supporting the same view, supposes that this formation of pigment in the spleen is peculiar to malarial fever, because some peculiar chemical change in the "splenic liquid" occurs in this disease, as a result of which the red corpuscles are destroyed in the enlarged and hyperæmic organ and the black pigment produced.

On the other hand, Arnstein[4] maintains that the pigment is formed in the blood in circulation during a febrile access, and that the melanæmia is primary and the accumulation of pigment in the spleen and other organs secondary.

According to this author the pigment-granules are produced by some change in the hæmoglobine of the red corpuscles, which are destroyed during the febrile access; these granules are taken up by the white corpuscles, in the interior of which they are found in masses of various sizes; and, finally, these white corpuscles are destroyed in the spleen and other organs where their burden of pigment is deposited.

Recent investigations, and especially those of Laveran, of Marchiafava and Celli, and of Councilman and Abbott,[5] indicate that this is the true explanation of the melanæmia, and of the pigmentation of the spleen and other organs. At all events it is beyond doubt that pigment-granules are formed in the blood in large numbers during a fatal attack of pernicious malarial fever, for they may be plainly seen *in the interior of the red blood-corpuscles*, lying in the capillaries of the brain, the liver, and other organs, when properly-made sections are examined under the microscope. The writer has been able to verify this fact to his entire satisfaction in sections prepared by Dr. Councilman from the two cases referred to in his interesting paper[6] and also in sections exhibited to him while in Rome by Drs. Marchiafava and Celli.

The distribution of the pigment-granules in the capillaries of the brain is shown in Fig. 1, which we take from the late work of Laveran.[7] The dark masses distributed through the capillaries are not single granules, as would appear from the figure, but collections of pigment-granules included in red blood-corpuscles, the outlines of which are not seen, but the presence of which is indicated by the separation of the little masses by clear spaces, and their rather uniform distribution in the capillary vessels.

Upon examining a section of this kind with a good objective we ascertain not only that these pigment-granules are included in the red blood-corpuscles, but also that they are included in a hyaline mass which seems to be differentiated from the substance of the corpuscle. These hyaline bodies were described by Councilman and Abbott in their paper referred to, and were demonstrated by these gentlemen to the writer in numerous sections. At the close of their paper the question as to whether these hyaline bodies are organisms is discussed, but no definite conclusion is reached, and indeed it may be

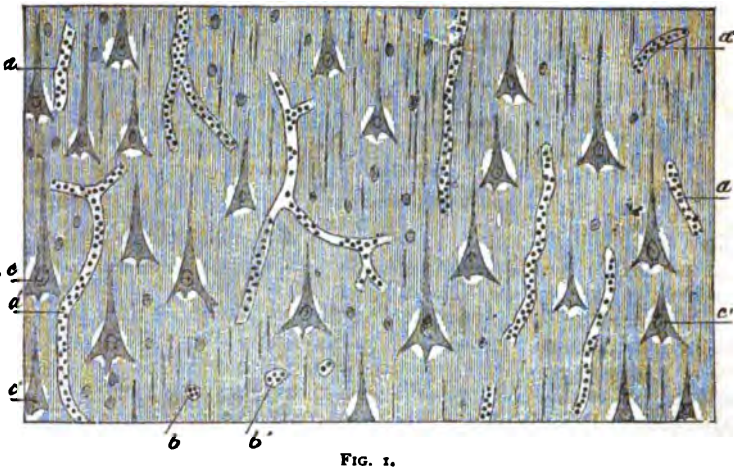

FIG. 1.

doubted whether this question could be settled by the examination of post-mortem material alone. Marchiafava and Celli find the same hyaline bodies in the interior of the blood-corpuscles in similar sections of brain-tissue, etc., from cases of pernicious malarial fever, and they have been successful in differentiating these masses in a most satisfactory manner by the use of staining reagents—methylene blue, alkaline, in saturated alcoholic solution, or an aqueous solution of visuvine. Moreover, the gentlemen referred to have demonstrated the presence of similar hyaline bodies, in the interior of the red blood-corpuscles, in certain cases, without any accompanying pigment-granules, showing that while the pigment may be secondary and a result of their presence, they are not dependent upon the presence of pigment. In Fig. 2 we have these bodies represented in the

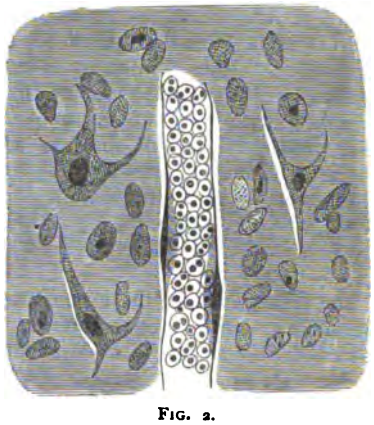

FIG. 2.

interior of the red blood-corpuscles in a capillary of the brain, from a case of "comatose pernicious fever." The figure is copied from the memoir of Drs. Marchiafava and Celli upon the "Alteration of the Red Blood-globules in Malarial Infection and Genesis of Melanæmia."[1]

In the memoir referred to the hyaline bodies appear as pale blue masses in the interior of the corpuscles, the figure having been made from a preparation in which they were stained with methylene blue. In reproducing this figure in the present paper, we must content ourselves with plain black and white, and it is to be feared that the woodcut will fail to convey the idea of hyaline masses, hardly to be distinguished except by the use of

[1] Cellular Pathology, p. 258.
[2] Diseases of the Liver.
[3] Ziemssens's Handbook, vol. viii., part 2. 1874.
[4] Bemerkungen über Melanämie und Melanose, Virchow's Archiv, 7,61.
[5] A Contribution to the Pathology of Malarial Fever, American Journal of the Medical Sciences, April, 1885.
[6] Loc. cit.
[7] Traité des Fièvres Palustres. Paris, 1884.

[1] Trans. R. Acad. Lincei, 1884.

a suitable staining reagent, and differing essentially from the pigment-granules shown in Fig. 1. When pigment is also present, it will be remembered that the granules are included in this hyaline mass.

A comparison of the figures which illustrate the paper of Councilman and Abbott,[1] heretofore referred to, will show that in the two cases so well recorded by these gentlemen the same hyaline bodies were found in great numbers; and a reference to the text shows that they also found the hyaline bodies independently of pigment-grains, and that "sometimes they were free"—*i.e.*, not included in the blood-corpuscles. They say: "From the great numbers of these masses in the brain they could be studied better here than in any other place. It could be distinctly seen that they were stained and appeared to be composed of a hyaline or very finely granular substance. Their diameter, as said before, was about one-third that of a red blood-corpuscle. The pigment within them presented the same appearance and arrangement as in the spleen. In some, the circular arrangement of the pigment-granules was very obvious. There was scarcely a capillary in the gray substance of the brain that did not contain these bodies in greater or less numbers. Some of the vessels were filled with them, and no corpuscles could be seen. Others contained both the hyaline masses and blood-corpuscles. At various places, in stainings made both with Bismarck brown and gentian violet, hyaline masses were found containing *no* pigment, which stained in the same way, and were of the same shape and size as those which contained the pigment. Others were found which contained but one or two pigment-granules."[2]

It is evident that the question as to the nature of these so-called hyaline bodies is likely to have a very important bearing upon the etiology of the malarial fevers; for if they are in truth parasitic organisms, their position in the interior of the red blood-corpuscles, their presence in vast numbers in quickly fatal "pernicious" forms of malarial disease, and their association with the pigment-granules, which are recognized as pathognomonic of malarial poisoning, makes it appear extremely probable that they bear a causal relation to the morbid phenomena which constitute the disease. That the red blood-corpuscles are destroyed on an extensive scale during an intermittent paroxysm has been repeatedly demonstrated by actual counting, and it is a matter of common experience that a series of such paroxysms induces profound anæmia. This result will be easily comprehended if we have indeed to deal with a parasite which invades or destroys the red blood-corpuscles. The writer, from a general review of the evidence, and as a result of personal observations recently made in Rome, through the courtesy of Drs. Marchiafava and Celli, is inclined to believe that this is the case, and confidently anticipates that, when the opportunity presents itself, he will be able to verify the fact in this country by direct observations upon blood drawn during life from patients suffering from typical forms of malarial fever.

There can be no doubt that the hyaline bodies heretofore referred to as found within the red blood-corpuscles in sections of the brain, etc., obtained from fatal cases of pernicious fever, correspond with similar bodies described by Laveran, and found by him in blood freshly drawn from the finger of patients suffering from intermittent fever.

As we have now arrived at the point where it becomes necessary to refer more explicitly to the work of Laveran, I shall take the liberty of quoting somewhat extensively from his book, published in Paris in 1884.[3] In the Introduction to this work the author says:

"This work is the fruit of five years' researches pursued without remission in Algeria; in writing it my principal object is to make known the parasites which I have been fortunate enough to find in the blood of patients attacked with malarial fever.

"At the time of my arrival at Bone, in the month of September, 1878, I did not entertain the hope of discovering the causes of 'paludism,' and my first labors were not directed in this direction; I occupied myself at the outset with the clinical history and pathological anatomy of the malarial fevers, seeking to free myself from preconceived ideas and from the influence of all of the classical theories.

"An analysis of the anatomical lesions observed in patients who had succumbed to a pernicious access, or to malarial cachexia, showed me that the characteristic lesion, and the only one constant in malarial poisoning, consisted in the presence of pigmented elements in the blood. These pigmented elements were known; they had been, in particular, very well described by Frerichs; but their origin and their nature were yet very obscure. It was while studying the mode of formation of these pigmented elements in the blood that I was brought to recognize their parasitic nature.

"On November 6, 1880, while examining the blood of a patient under treatment for intermittent fever in the military hospital of Constantine, I recognized for the first time the existence of mobile filaments which were attached to the pigmented bodies, and of which the animated nature was not doubtful. I had at this moment the intuition that I was in presence of the veritable malarial germ, '*microbe du paludism*,' and all the facts which I have observed since have gone to confirm this first impression.

"I have verified the presence of this particular organism in four hundred and thirty-two patients attacked with different forms of malarial disease, and I have never encountered these microbes in subjects attacked with other diseases.

"All of the military physicians who at Constantine have interested themselves in my researches, and who have done me the honor to frequent my laboratory, have been able to recognize the existence of this microbe, and to verify the facts which I have stated. . . .

"In 1882 I made a voyage to Italy, for the special purpose of seeking in Rome the parasites which I had observed in Constantine, and I have been able to convince myself that the blood of fever patients from the Roman Campagna contains microbes identical with those which I have described in the blood of similar cases in Algeria. . . .

"The search for the malarial parasite requires, it is true, a certain familiarity with the use of the microscope in general, and with the examination of the blood of malarial cases in particular, but these are difficulties which it is easy to surmount with a little patience."

We pass now to Chapter III., in which a detailed account of the morphology of the parasite is given, together with explicit directions for finding it. As we hope that the present article may induce microscopists in our own country, who are favorably located for such researches, to attempt to verify the alleged discovery, we shall quote from this chapter so much as seems necessary to serve as a guide for such researches.

"The technique which permits of the observation of the parasitic elements in the blood of malarial cases is very simple; it is, however, necessary here to enter into some details for the search is not unattended with difficulties.

"1st. *Choice of patient.*— . . . It is at the outset of the access of fever, or during the hours which precede the invasion of the febrile paroxysm, that the parasites are found in the greatest number in the blood, and that they are consequently most easily found. It will be best to choose a patient who has already had several malarial attacks and who is decidedly anæmic; the parasites are usually numerous in these cases and more easy to find, inasmuch as the blood is poor in red corpuscles; it will, above all, be necessary to choose a patient who has not taken sulphate of quinine for some time.

"2d. *Technique for the preparation of the blood.*— . . Prepare two thin glass covers, and two glass slides, which

[1] Op. cit. [2] Op. cit., p. 419. [3] Op. cit.

are very level; it is well to wash these first with water and then with alcohol, although the microbes of malaria are so characteristic that there is little danger that they will be confounded with dust or with the spores and bacteria suspended in the atmosphere, and which may fall upon the preparation.

"One preparation will usually suffice for the examination of blood, but it is wise to make two, as one may not be satisfactory on account of the thickness of the layer of blood or for some other reason.

"After having washed one of the patient's fingers, first with water and then with alcohol, it should be compressed at the base, and a puncture made with a new needle, or with a perfectly clean lancet, at the extremity —*la pulpe*—care being taken to choose a locality where the epidermis is not too thick. The drop of blood obtained in this way should be of moderate volume; when the skin is dry, the drop takes a rounded form; when the weather is warm and the skin is covered with sweat, or when one proceeds to the examination of a patient who is in the sweating stage of an intermittent paroxysm, the drop of blood spreads out and mingles with the perspiration. In this case it is necessary to dry the skin with care and collect the blood very rapidly.

"The drop of blood which is formed at the extremity of the finger is collected by bringing in contact with it one of the glass slides; the slide should not touch the skin; the little drop of blood adheres in part to the glass slide and is to be immediately covered with one of the thin glass covers previously prepared. It is well to slightly moisten the slide and cover-glass by breathing upon them; the cover-glass is applied to the drop of blood in such a manner as to form at first an angle of about 45°, and is then quickly lowered and at the same time made to slide upon the glass slide in order that the blood may be spread out without the interposition of any air-bubbles.

"The preparation should present a very pale color; if the layer of blood is too thick, it will be necessary to press gently upon the cover-glass, and afterward to wipe away the blood which is forced out from around its margin; care must be taken not to use too strong a pressure, as this would destroy the parasitic elements, or at least alter their aspect.

"At the outset of my researches I always took the precaution to place paraffine around the margin of the cover-glass; this precaution is not essential. The blood dries rapidly upon the edges of the preparation, especially when the air is warm and dry, and forms a solid cement which prevents the central portion from drying. At the end of twenty-four or of forty-eight hours one generally finds the central part of a preparation made in this way still liquid. . . .

"The blood ought to be examined pure, without mixture with any liquid, for it is in blood-serum that the parasites retain for the longest time their vitality after having been withdrawn from the circulation." . . .

"There is no advantage in taking the blood for examination from one part of the body rather than from another. . . . . The parasitic elements are found in the blood coming from natural hemorrhages—epistaxis, hæmoptysis, hæmaturia, etc. I have looked for them in vain in the serum obtained from the vesicles of labial herpes, and in the urine of malarial patients.

"3d. *Mode of examination of the preparations.*—An amplification of 400 to 500 diameters suffices for the observation of all the details presented by the parasitic elements found in the blood of malarial patients. . . . In the examination preference should be given to those parts of the preparation in which the red corpuscles lie flat and form but a single layer. . . . The corpuscles which adhere strongly to each other at the moment when the blood is drawn frequently become isolated in a few minutes, and present themselves *de face;* the examination of the blood is therefore, in general, more easy after ten or fifteen minutes, or even at the end of half an hour. . . . The search is rendered somewhat difficult by the fact that in general the parasitic elements are not found in great numbers in the blood. One finds sometimes as many as eight, ten, or fifteen parasitic elements in a single field of the microscope, but this is a somewhat rare event, and the observer should have for this study a provision of patience. In the cases, sufficiently frequent, in which the parasites are not numerous, it will often be necessary to make a prolonged examination—ten or fifteen minutes, or even more—in order to discover them.

"The pigment-granules which are usually found in the parasitic elements serve to call attention to them; the parasites themselves are so transparent that it would be difficult to see them if they were not pigmented; we shall see further on that the mobile filaments which represent the most perfect form of the malarial microbe, and which do not include any pigment, are only visible when in motion. The observation of the movements of these filaments, which is so interesting, is particularly difficult. It often happens that these movements are arrested under the influence of the cooling which the blood undergoes upon being withdrawn from the vessels, and only reappears after an interval of a quarter of an hour or half an hour. Warm weather is the most favorable for the observation of these mobile filaments; or one may make use of a hot stage, the temperature of which should be 37° to 38° C."

Description of the microbes of malaria.—"The parasitic elements present themselves under several forms, which appear to correspond with different phases of the evolution of the same parasite. These forms, to the number of four, were described in my first communications relating to the malarial parasite under the following names, which I think it well to preserve in order to prevent confusion: cellular bodies—*corps kystiques*—No. 1 and No. 2, or simply bodies No. 1 and No. 2; mobile filaments; and body No. 3, which seems to be simply the cadaveric form of bodies No. 1 and No. 2.

"To this enumeration we might add the leucocytes containing pigment which borrow the pigment grains with which they are charged from the parasitic elements undergoing destruction, and which consequently are very characteristic of malarial disease."

"*Cellular bodies No.* 1.—These are cylindrical elements, having pointed extremities, most frequently curved in the form of a crescent, and pigmented toward the centre as shown in the following figure."

FIG. 3.—A, B, bodies No. 1 with pointed extremities; C, body No. 1 attached to a red blood-corpuscle; E, oval body, intermediate between No. 1 and No. 2. (Magnified about 1,000 diameters.)

"The length of these bodies is from eight to nine micromillimetres, the diameter about three micromillimetres in the broadest part. The extremities are sometimes pointed (A, B, Fig. 3), sometimes more rounded (D). The contour is generally indicated by a single delicate line; but it is easy to verify a double contour in certain preparations. These bodies are transparent, and colorless, except toward the central portion, where there are always some pigment-granules more or less agglomerated. Occasionally the pigment may be situated at one of the extremities. One may often perceive on the concave side a very fine line, which seems to unite the extremities of the crescent (B, Fig. 3). When one of these bodies is attached to a blood-corpuscle (C, Fig. 3) the extremities of the crescent pass the line of the contour of the corpuscle; the adhesion to the corpuscles is not strong, and appears to be purely accidental. . . . Beside these cylindrical elements of crescent shape are found almost always oval bodies (E, Fig. 3), which seem to be inter-

mediate forms between body No. 1 and body No. 2, which will be described further on; in these oval bodies the pigment grains are often arranged in the form of a crown, as in body No. 2. These bodies No. 1 do not appear to be endowed with movement, they do not change place in the field of the microscope, and when their form is modified it is in a very gradual manner; one may follow the transformation of these cylindrical bodies with pointed extremities to an oval and then to a spherical body. . . . In general it will be found that at the end of twenty-four or forty-eight hours these bodies, No. 1, have taken an irregularly spherical form. In the cadaver the bodies No. 1 change their form still more quickly than in the fresh blood; in order to find them it is necessary to collect the blood shortly after death."

"I will attempt further on to determine the conditions under which one meets these bodies No. 1 in the blood of malarial patients. It will suffice to say here that *the presence of these elements in the blood is much less constant than that of body No. 2*; if I have described them first it is in order to preserve the order which I have adopted in my first publications. Sometimes these bodies No. 1 are not found at all in blood rich in parasitic elements (bodies No. 2, and mobile filaments); sometimes, on the contrary, the blood only contains these bodies; in certain cases these elements exist in very great numbers in the blood; it has several times happened to me to find ten or twelve in a single field."

(To be continued.)

UNUSUAL CAUSES OF COUGHING.[1]

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It is the most important, and frequently the most difficult, task of the physician to ascertain the causes which produce coughing; to define exactly the locality upon which the irritant is at work. I wish to speak now only of those varieties of cough which are produced by disturbances in the upper portions of the air-passages, leaving out of consideration cough as associated with chest disease. Here it is but one of the many symptoms of the general disturbance, and it can be controlled with the other manifestations. Its importance, too, is outweighed by the constitutional condition of the patient, which may threaten to produce a fatal result. It is not the cough which is to be cured in pneumonia and phthisis, but the abnormal condition of the lungs or the associated bronchial catarrh which cause the coughing. On the other hand, there are many patients who consult a physician with whom the prominent and sometimes the only symptom is an aggravating, teasing cough. This is the only complaint, and the physician's aid is sought solely for relief from this annoyance. It is not enough in these cases to examine the throat and lungs critically, and to assure the visitor that his respiratory tract is healthy, and therefore it is useless and unnecessary for him to cough. He will be pleased to know that he has not contracted consumption; but he will continue to cough, and as a result may develop chronic pulmonary trouble. A glance at the patient is sufficient to exclude phthisis, bronchitis, emphysema, etc. He is a strong, healthy man, and laughs when questioned as to his appetite, strength, and weight; yet there is in this case some abnormal factor at work which is doing all the mischief, and which must be discovered to be successfully corrected. For this reason no apology is necessary for mentioning pathological conditions, however slight they apparently may be, provided only they are sufficient to produce these grave disturbances. Irritants are always slight in the commencement, but may lead to chronic inflammatory diseases of large dimensions unless treated early, as Riegel[2] says: "The intensity of the paroxysms of cough is in no way immediately dependent upon the extent or intensity of the local alterations, so that we cannot form any definite conclusions from the nature and severity of the cough as to the seat and extent of the pathological alterations."

Uncertain diagnosis renders the prognosis and treatment equally unsatisfactory. It is a great point gained when the physician can account for all symptoms on a pathological basis. From the tip of the nose to the larynx there is ample space for the location of numerous cough-producing factors. Many points of irritation have been discovered, during the past few years, which had never been dreamed of as having any possible connection with a troublesome cough. But now that we know that there is so intimate a relation between parts so distant from one another—as, for example, that asthma may be occasioned by an obstruction in the nasal passages, and that wax in the ear, or a polypus in the vault of the pharynx, may be sufficient to provoke the most harassing cough—we are inclined to investigate thoroughly before admitting ignorance, and classifying the cough in question as a nervous, irritative, reflex, or hysterical one. There are undoubtedly some few coughs which, for want of a better name, but more for want of clearer knowledge, may be so styled; but hysterical coughs are not so frequent as they were five years ago, and they will be less frequent at the end of another five years. Nor do I believe that reflex coughs are very common, provided by that term we mean that the cough-producing irritant is situated in a portion of the body remote from the respiratory tract, as in the so-called "stomachic" cough. Careful investigation will usually reveal an irritant much nearer than the stomach. In uterine coughs, too, although there may be undoubted uterine disease which produces general nervous irritability—yet, granting that a person may possess this predisposition, and that a very slight irritant is enough to produce so marked objective symptoms as a paroxysm of coughing—still an irritant there is, and careful investigation will locate it in the upper air-passages much more frequently than in or about the uterus.

The whole diagnosis is not made, even if a catarrhal laryngitis or bronchitis is discovered; these, like the cough, may be the result of the irritation for which we are searching, and not the irritant itself. We are in the habit of giving the indefinite name of bronchitis to many cases of cough. The lungs are examined, and if a few mucous râles are heard this diagnosis is thought to cover the whole ground. But this, after all, is not going deeply into matters; for mucous râles are present in the chests of thousands of healthy people who have no cough. In our climate, redness of mucous membrane and mucous secretion are commonly found in larynges and bronchial tubes without apparent detriment to the health of the patient, and too much stress must not be placed upon these phenomena as cough-producing factors. Experiments have clearly demonstrated that there are certain localities in the pharynx, larynx, and trachea which are much more sensitive to irritation than the remaining parts—for example, the posterior wall of the junction of the middle and lower pharynx; in the larynx, the interarytenoid fossa, the folds of tissue extending between the epiglottis and the arytenoids, and the glosso-epiglottic ligament. Irritation at any of these points produces a spasmodic cough; while the mucous membrane of the trachea, as a whole, is moderately sensitive, it is particularly so at its bifurcation. All these parts are necessarily intimately associated in sensibility, obtaining, as they do, their sensitive nerve-supply from the same source. No matter how callous any portion of this tract is to irritation, the neighboring tissues will quickly become affected, and coughing will result if the irritation is long continued. Early investigators concluded that cough occurred primarily only in the larynx, but it is now known that cough may be produced by irritation of the terminal filaments of the pharyngeal and superior laryngeal branches of the pneu-

[1] Read by title before the Medical Society of the State of New York, February 3, 1886.

[2] Riegel, Von Ziemssen, vol. iv., p. 277.

mogastric at any point of their distribution—the most sensitive points, however, being those mentioned above.

Perhaps a more appropriate title of the communication would be unrecognized rather than unusual causes of cough, for I believe the ones to be mentioned are not infrequent, but they are certainly apt to be overlooked. For the purpose of intelligent therapeutics, it is as important to understand the exact sources of irritation about the respiratory mucous membrane as to discover the foreign body which is the cause of an ophthalmia. The analogy is a close one; for, as will be seen, it is nearly as unreasonable to prescribe mucilaginous cough-medicines in the one case as to rely on soothing lotions for the eye in which the foreign body is allowed to remain.

I can give the history of a case illustrating this point in a few words. A young woman, nineteen years of age, the picture of health, assured me that she was very well in every particular, except that she suffered from spasms of coughing which were very violent, and which resembled whooping-cough in character, the paroxysms sometimes ending in vomiting. This was the most severe of three similar attacks, which had followed each other at short intervals during eighteen months. She had the inclination to swallow continually, and there was frequently a sensation as though food was lodged in the commencement of the œsophagus. A slight tickling in the larynx was constant; this she could control, but any movement of the throat, as in swallowing, loud talking, deep full inspirations, increased the irritation so much that she was powerless to prevent the cough and

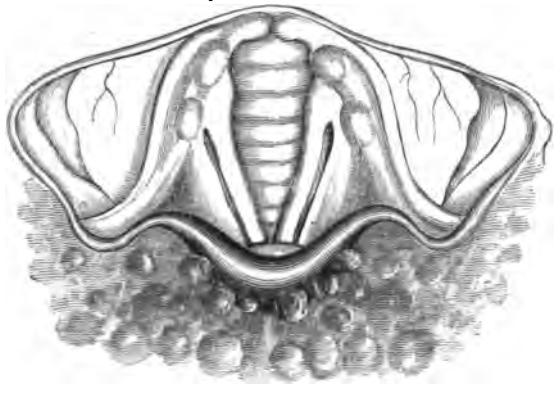

Fig. 1.

glottic spasm. It will be noted that all the symptoms pointed to the pharynx, or the upper part of the larynx, as the locality affected. Her cough was so constant and loud that she greatly annoyed her friends, who thought it could be in a measure controlled, as her general health was so good. A physician, too, had pronounced it a nervous cough, so that family sympathy was not abundant. She had taken expectorants and sedatives, with partial relief for a time. I was greatly interested in searching for the location of the irritant which was causing the cough, as its character demonstrated that it was not a reflex affair (as that term is commonly used), but occasioned by actual lesion. I expected to find, in this particular instance, either an irritable nasal mucous membrane, an elongated uvula, erosions on the posterior wall of the pharynx or tip of the epiglottis, or possibly some laryngeal disturbance. Nothing of this kind was seen, but the following condition was present, as shown by Fig. 1: The papillæ at the base of the tongue were greatly hypertrophied, and the superficial lingual veins were much enlarged. They appeared like a number of large earth-worms. There was no special sensitiveness here, and the probe was rubbed over the whole of the base of the tongue without exciting muscular spasm. The mischief this condition of the tongue was producing was apparent, however, when an attempt to swallow was made, or during sharp, quick inspirations. At such times, the base of the tongue being drawn backward, the large, rough, glossal papillæ folded themselves over the free edge of the epiglottis, so that the latter was bent forward and held securely down; buried beneath them, one-fourth of an inch of the summit of the epiglottis was concealed. The parts remained in this position during ordinary respiration until a strong muscular movement was made, when the epiglottis freed itself and became nearly vertical. It soon became apparent that here was the source of irritation. By careful observation I ascertained that the paroxysms of coughing were not produced when the tongue and epiglottis met.

In fact, at almost every examination the base of the tongue was found overlapping the epiglottis, and this seemed to be the usual position during rest. It was when the epiglottis struggled to throw off the tongue that the patient experienced the irresistible impulse to cough. This appearance truly represented a struggle between the two parts, and the epiglottis was forced to rub its sensitive laryngeal surface across the horny prominences of the tongue. This would seem sufficient occasion for glottic spasm, when it is remembered that the posterior surface of the epiglottis will not tolerate the touch of a probe until it has become educated to such contact. It will be said, in objection to this condition being a frequent cause of cough, that the epiglottis does become accustomed to the touch of the tongue; and this to a certain extent is true. It is well known that the anterior face of the epiglottis is far less sensitive to irritation than its laryngeal surface, exposed as it is to the passage of solid and liquid food. It is a common occurrence to find the base of the tongue lying against the epiglottis, and it is not unusual to see the glossal papillæ extending over its free margin, and touching its laryngeal surface, without creating any disturbance. It is a different matter when, as in this case, the follicles of the tongue overlap the epiglottis to the extent of one-fourth an inch, and rub over so large an area of sensitive surface. Such a condition may, and undoubtedly occasionally does, exist without exciting reflex spasm; but if it occurs in a person having a sensitive mucous membrane, and the irritation is sufficient to provoke coughing, the epiglottis will become more and more irritable, the paroxysms more frequent and severe, until secondarily the pharynx and larynx will become actively congested. In this hyperæsthetic condition everything will act as an irritant and provoke coughing—change in the temperature of the air breathed, dust in the atmosphere, loud talking, fast walking, or even different positions of the body. The patient coughs when he first lies down, and again when he rises. The coughing-fit itself acts as an irritant, and the more violent it is the sooner and more severe will be the following one. It is well to bear in mind the injury done to mucous membranes by the *mechanical violence of coughing*. It is itself a more potent cough-producing factor than most external irritants. Such a condition of the upper respiratory tract will account for spasm of the larynx, laryngismus stridulus of adults, and attacks of suffocation without apparent cause. In such cases great caution should be used in making local applications to the larynx, as alarming glottic spasm may be easily produced.

By further examination, I became convinced that the enlargement of the glandular tissue of the tongue was not wholly at fault in assuming this abnormal position in relation to the epiglottis. The epiglottis must be in some degree peculiar to invite this contact. In all cases that I have seen, the epiglottes have been remarkably thin and supple, and the normal degree of anterior curving of the free margin has been considerably exaggerated. In some instances the epiglottis is rolled up like a scroll. I have seen cases where the tip was bent backward until it touched its own lingual surface. Long and lax aryteno-epiglottidean ligaments, or impaired action of the muscular fibres of the thyro-epiglottideus, may be the cause of such pronounced anterior position. It would seem impossible that an epiglottis of such a shape could become erect or curved backward far enough

to cover the orifice of the larynx during deglutition. The weight of the epiglottis has much to do with its position. In inflammation of this cartilage it is a rule to find it leaning backward toward the œsophagus. It is frequently seen in a horizontal position when inflamed and thickened by phthisical and syphilitic disease; and as the inflammation subsides, it will, little by little, become erect. The following case shows how much the weight of the epiglottis regulates its position. A middle-aged woman came to the office, complaining of cough and slight dyspnœa. A fibroma as large as a small grape was found attached to the posterior surface of the epiglottis near its summit. The epiglottis was otherwise normal. It was bent backward beyond a horizontal plane, and enough to cause the dyspnœa. The growth was removed with the galvano-cautery. That the weight of the tumor was the cause of the depressed position of the epiglottis was apparent, for after its removal the epiglottis gradually became erect, and the dyspnœa ceased. It is, then, in those patients where *the epiglottis has not been attacked by disease*, that we find it tipping forward, and inviting contact with the tongue.

To satisfy ourselves beyond doubt that this condition alone is the cause of cough, we must exclude all other sources of irritation about the ears, nose, pharynx, and larynx. And here I can pay still another compliment to the much-lauded cocaine, by mentioning its great value as a means of diagnosis. Apply a four per cent. solution of cocaine to the nose, pharynx, and larynx, not allowing it to touch the tongue and epiglottis, thus quieting all irritability except at the location. If the cough and tickling continues, it is fair to conclude that we have discovered the cause and source of the cough.

The treatment of these cases is quite satisfactory. The indication is to remove the enlarged papillæ at the base of the tongue, or to diminish their size sufficiently to prevent them overlapping the epiglottis. This is best accomplished by burning them with a galvano-cautery electrode. It is not always necessary to use the laryngoscope when applying the cautery. If the tongue is forcibly depressed, its base can be seen and reached, and frequently the epiglottis, too, can be brought into view. The epiglottis, too, is more easily seen in this class of cases, on account of its high position in the pharynx and its forward curvature. The various caustics may be employed instead of the electric cautery, but great care must be used in limiting their application to the enlarged glossal papillæ. I have found, too, that simple pressure, by means of cotton or sponge attached to a sponge-holder, will produce absorption of this glandular tissue. I have seen most beneficial results from this line of treatment. And in the case reported above, the cough ceased when the hypertrophied tissue of the tongue had been removed.

In another class of cases where, as in those just described, cough is the prominent symptom, the shape and size of the epiglottis will be found to be the cough-producing factors, the base of the tongue being normal. I do not wish to speak of the various well-known varieties of ulcerations which attack the epiglottis in the course of syphilis, phthisis, lupus, carcinoma, etc. There is nothing subtle about these processes; they may be readily seen by looking, and the lesion is usually so well marked as not to escape observation. The epiglottis has always been considered one of the most sensitive portions of the respiratory tract. Its position is one of peculiar exposure; protected somewhat more than the pharynx, it never, like that, becomes thoroughly accustomed, and so eventually insensible, to the irritation of all kinds of solids and liquids, and to the extremes of temperature both in the air breathed and the food eaten. But while it is much more exposed than any other part of the larynx, it retains the fine sensibility necessary to its functions as a sentinel. Erosions along the tip of the epiglottis are spoken of in text-books as one of the results of catarrhal inflammation, and as capable of producing an harassing cough. I am sure they rarely occur in a simple inflammatory process, unless the epiglottis is exposed to friction; and I believe, too, that their presence alone will not account for a constant cough, unless the friction is continuous. In addition, then, to the discovery of an eroded epiglottis, it is wise to ascertain in what manner its epithelial covering became rubbed off. The point I wish to emphasize is this, that where the free margin of the epiglottis is seen reddened and irritable, the merest touch producing a paroxysm of cough, it will usually be found that *the shape of this cartilage* is at fault—it is asymmetrical. A condition spoken of and illustrated by Dr. J. Solis Cohen in his book,[1] but frequently much more exaggerated than there represented. One angle or one-half of the summit is prolonged beyond the level of the other half. The prolongation sometimes ends in a well-curved border, and sometimes extends to a point. The commencement of the asymmetry is congenital, and is not more remarkable than the several other malformations of the epiglottis which commonly occur. No discomfort ensues from this elongation of the epiglottis until it comes in contact with some neighboring tissue, as the prominent papillæ at the base of the tongue, if the epiglottis is bent forward, and I have noted one instance in which the long point of the epiglottis touched the posterior wall of the pharynx during deglutition. The congenital unilateral enlargement of the epiglottis is increased by chronic inflammatory thickening as soon as this condition of contact with other structure becomes permanent. We have now all the conditions favorable for a constant irritative cough—a sensitive epiglottis, so long as to necessarily impinge upon the tongue with every movement of the larynx. A case in point came to the office to-day. The young woman while sitting in a room at some distance from my office coughed constantly and so loud as to be easily heard. I had in this way, before seeing the patient, an opportunity of judging of the character of the cough. It was spasmodic, irritable, and unsatisfactory in that no mucus was expelled from the larynx. The patient was an unmarried woman. Good general health. Family history excellent. The commencement of her cough dated back almost a year. She thought it the result of a cold contracted at that time. The cough, she said, was excited by a tickling, and she placed her hand over the larynx as the location of the irritant. She said, too, that she was "forced to cough until she reached the spot," meaning that the tickling continued until the point where it was felt was forcibly agitated, then there was a brief feeling of relief. Where coughing has for its object the expulsion of an accumulation of mucus, it is natural that the cough should cease so soon as the irritant is removed. This is the legitimate function of coughing, to expel all foreign substances from the upper air-passages and to prevent their entrance into the lungs. And the unusual expiratory efforts are continued until this object is accomplished. But how shall we explain the relief obtained by coughing, and the longer or shorter intervals between the paroxysms, in those cases where, as in the one cited, there is no hypersecretion, but the sensory nerve-fibres are excited by an irritant which remains constantly present, and which no effort can remove or relieve? The act of coughing itself increases the feeling of sensitiveness in the throat until finally the irritation reaches its maximum intensity and then suddenly disappears and the cough ceases. It is probable that the sensory nerves become so shocked by the mechanical violence of the cough that they are for a time insensible to irritation. Their muscular irritability is exhausted, and during the time necessary for recuperation there is no tickling and no cough.

I have already described the lesion and cause of the cough which were found in the case just referred to, and they are well shown in Fig. 2. An epiglottis elongated at its left superior margin, one-third of an inch beyond that of the remainder of the free border—this prolonga-

[1] Diseases of Throat and Nasal Passages, p. 55, Fig. 31.

tion ending in a point. The epiglottis was bent sharply forward over the base of the tongue, and rested upon, or was buried beneath, some of its papillæ. The point of the epiglottis was in a condition of chronic inflammation, red and thickened, and the mucous membrane rough and granular. The unusual length of the epiglottis was evidently steadily increasing under the constant friction against the horny tissue of the tongue. It required but a moment to prove that here was the seat of the trouble, for when the long point of the epiglottis was touched with a probe the patient recognized the location as identical with that of the seat of chronic irritation, and the same cough was produced. Most positive evidence, however, was obtained by the action of cocaine, and this is a use of this drug which I have not heard spoken of. It was employed in this manner: It was applied only to the elongation of the epiglottis by means of a small pledget of cotton wrapped about a probe. This effectually excluded from consideration an irritation arising from this point, and as the entire feeling of tickling was gone, it was just to conclude that this was the entire irritant. The value of cocaine, then, as a means of diagnosis by exclusion, is another point to be recorded in its favor. This drug is particularly useful, too, in the treatment of these patients. And in those cases where there is but slight elongation of the epiglottis, cocaine may be all that is required. Its effect on the epiglottis is similar to that on other mucous surfaces: it reduces its size by contracting the enlarged capillaries and forcing out the blood. The decrease in size is in proportion with the degree of congestion which exists. In the same way cocaine levels the hypertrophied tissue of the base of the tongue. By applying the drug several times daily some permanent reduction in size may be gained by obliteration of capillaries. If the length of the epiglottis is too great to be removed in this manner, more radical measures must be employed, and the galvano-cautery is the best instrument.

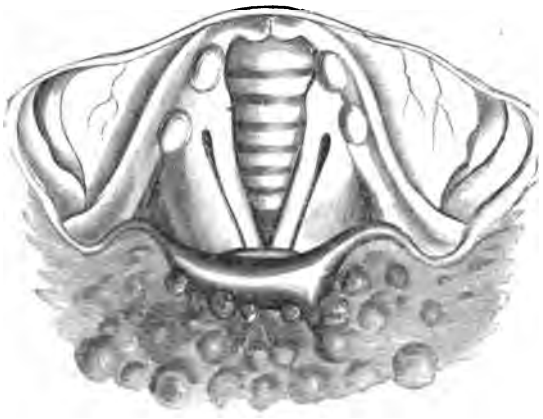

FIG. 2.

With the platinum point the hypertrophied tissue of the epiglottis can be removed and its elongated free margin be made symmetrical.

The "unusual causes of coughing," then, are two: First, *hypertrophied, glossal papillæ, overlapping an epiglottis, which is bent far forward, but otherwise normal;* and second, *a congenitally assymmetrical epiglottis, which has been made still longer by inflammation, caused by constant friction with the tongue.* Abnormal conditions of the tongue and ulcerations of the epiglottis are mentioned in text-books as sources of irritation and causes of cough, but this relation between the tongue and the epiglottis has not been specially recognized as a strong cough-producing factor. I believe it is very frequently so. I consider the recognition of this lesion to be of great importance to the physician; for it explains the etiology of many coughs the causes of which have not hitherto been accurately determined. Since my attention was first called to this lesion, I have seen many cases in which it existed, and in which it could be demonstrated beyond a doubt that it was the sole cause of cough.

A SUCCESSFUL CASE OF LAPAROTOMY FOR PERITYPHLITIC ABSCESS.[1]

By JOHN HOMANS, M.D.,

INSTRUCTOR IN HARVARD UNIVERSITY IN THE DIAGNOSIS AND TREATMENT OF OVARIAN TUMORS, VISITING SURGEON TO THE MASSACHUSETTS GENERAL HOSPITAL.

IN THE MEDICAL RECORD of March 6, 1886, appeared an excellent article, by Dr. William T. Bull, on the subject of early interference in cases of perityphlitic abscess. The case which I have lately operated upon is one of earlier interference than that of Dr. Bull, if we date from the first symptom of pain, but a later one by about a day, if we date from the time the patient took to his bed. At the same time, as my patient was a boy aged eleven, he may not have remembered his symptoms and the duration and locality of his pain as well as an adult would have done. Dr. J. S. Greene, of Dorchester, was called to see the boy on Saturday evening, January 9, 1886. I operated on Monday, January 11th. Laparotomy was done without previous aspiration over the most tender point, which was one and a half inch above, and a little posterior to, the right antero-superior spine of the ilium. Nothing like pointing existed. You will notice that this laparotomy was done within forty-eight hours of the doctor's first visit, and when the patient had been in bed less than four days. The very first symptom of pain and uneasiness had appeared within five days. All the cases of acute perityphlitis that I had seen demonstrated by dissection during the last twenty-five years had been at autopsies, and death had usually taken place about a week after the first symptom had appeared. Dr. Greene and I decided not to wait for the autopsy.

Dr. Bull's patient had a steady, dull pain in the inguinal region for ten days before he took to his bed, so that if we date from the period of decubitus Dr. Bull's operation is the earlier; if from the first symptom of disturbance, mine is the earlier. But this is a question of little importance. The point on which Dr. Bull and myself would agree in urging upon the profession is that in most of these cases an operation, to be of any service, must be done early, *very early*. I could not find a dull place in which to pass a needle, and so I thought it more intelligent to dissect down through the locality of greatest tenderness. I think the wisdom of this was shown by the operation, for I came down first on perfectly healthy bowel, and it was only by separating and poking the loops of intestine apart that I was able to open the abscess. If I had thrust in the needle at the point where I made the incision, I should have perforated the bowel at least four times before I could have struck the collection of pus, and I might have missed it entirely. If I had aspirated just below the kidney, in the right loin, I should have hit the right spot, and perhaps this would have been better surgery in point of drainage, and as not opening the peritoneum. However, as the patient was cured, it may be that my incision was as well placed as one further behind would have been. I will give you the history of the case that you may understand it more clearly. The patient was a boy, eleven years of age, never robust. On Wednesday, January 6th, he had some pain in the bowels; on Thursday he had more pain, but he still kept about. On Friday his pain became worse, and he called attention to it and remained in bed. On this day he had a dejection. Dr. Greene saw him on Saturday evening the 9th, and found him in bed with a temperature of 102.4°, and a pulse of 120. His tongue was coated white. There was dulness on percussion over the right iliac and lumbar regions, with the centre of tenderness about one and a half inch above the anterior spine of the ilium. There was no swelling. The other parts of the abdomen were somewhat compressible. Morphia was given, and a poultice applied.

[1] Read before the Surgical Section of the Suffolk District Medical Society, April 19, 1886.

On Monday, the 11th, the pulse was more frequent and the abdomen less yielding; small quantities of liquid nourishment had been taken and retained. Dr. Greene called me to see the patient in the afternoon, and I performed laparotomy at the point above mentioned. No spray was used. An incision about two and a half inches long was made, and the peritoneum opened; the healthy bowel presented itself. On passing my finger below and behind the presenting loops I felt coils of intestine filled with fecal masses, or perhaps also enlarged glands. The loops of intestine were adherent to each other by a recent plastic process, but by poking about with my finger and separating them I opened an abscess, and about two ounces or more of foul-smelling ("rotten egg") pus welled up out of the wound. So far as we could, we prevented the pus from running in among the coils of intestine, and after emptying the abscess as well as possible, a double drainage-tube was passed into its cavity and the incision closed around the projecting ends of the india-rubber tube. The boy did not sit up out of bed till February 3d, about three weeks after the operation. His temperature varied from 99° to 102.9°, and he required opiates for four days. His bowels moved on January 15th. The wound discharged freely for a fortnight, and united by granulation. He is now well, hearty, strong, and is gaining flesh. The credit of the cure belongs more to Dr. Greene than to me, as I was only his instrument in the case. There is not the least tendency to hernia, but I have had an elastic abdominal supporter fitted, as I always do after a recovery from laparotomy, for whatever purpose done.

(Dr. Homans now showed the patient undressed, and pointed out the site of the incision and the cicatrix, which was firm and solid. The boy looked healthy and strong, and had gained many pounds in weight. He is perfectly robust and active.)

POINTS IN THE THERAPEUTICS OF DISEASES OF THE JOINTS.

By A. B. JUDSON, M.D.,
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It is sometimes said that the treatment of joint diseases is enveloped in obscurity, and that the methods in use are various and conflicting. As an attempt to clear up the therapeutical atmosphere, I would like to make two or three points, as our legal brethren would say.

In the first place, I think we fail to recognize and acknowledge that articular osteitis is, from the nature of the case, an affection of long duration, and one in which absolute restoration to perfect symmetry and complete function is very decidedly the exception and not the rule. In these days of brilliant and painless operations and marvellous discoveries in physics we resent being limited to simply reducing deformity and placing the part and system in a favorable position for the slow processes of natural repair. Until a perfect cure has been found, however, and tested by time, it is better not to disappoint our patients, but to give them the assurance that they will receive at our hands all that the present state of science can grant.

In the second place, I think obscurity has been caused by the mistaken precedence which has been unwittingly given to mechanics over pathology. The machinery of the joint being out of order, and certain muscles abnormally contracted, we have concluded that it is a question of dynamics, and that the pressure incident to muscular action is the cause of the destruction of cartilage and bone. Instead of prudently stopping to verify this conclusion by the examination of morbid specimens, which prove that muscular action plays but an insignificant part, we seek a mechanical remedy for what appears to be a mechanical lesion, and invent an apparatus for counteracting the muscles. And when the apparatus is adjusted and the symptoms abate we congratulate ourselves and imagine that the relief experienced is a proof that the muscles were causing all the mischief, failing to see that we cannot directly oppose the muscular action at all, and that, without knowing it, we have fortunately been applying fixation, which is a constant accompaniment of traction, and which a timely resort to pathology would have told us was the very thing which the inflamed joint needed. I have none of my fellow-workers in view (we have all been followers of Dr. Henry G. Davis), but have simply tried to show how pathology and mechanics have failed to walk hand in hand, as they should have done, in the treatment of joint diseases. The therapeutical precepts suggested above have been expressed in detail in former papers,[1] and sustained by reasons which seem to me conclusive.

The third point I wish to make is, that anchylosis has not been given its proper value in the formulæ of this therapeutical problem. When long-continued inflammation has rioted in the tissues of a joint, deforming the articular surfaces and locking them up in organized lymph and shortened ligaments, we have anchylosis, the ultimate degree of which will depend, in my opinion, on the promptness and success of our efforts to arrest the inflammation. And I think that we are wrong when we fear adding to the amount of ultimate anchylosis by early and thorough fixation of the joint. To me it seems reasonable that such a course will diminish the resulting anchylosis by subduing the inflammation and preventing an excess of its products. The statement has been made, and I believe can be sustained by records, that fixation of a healthy joint, no matter for how long a period, is powerless to produce anchylosis. It causes a temporary arrest or impairment of motion, such as can be overcome by habitual effort on the part of the patient, a disability very different from the anchylosis following inflammatory disease, which is, with rare exceptions, permanent. If this view be correct, then fixation is to be applied as early in the case as possible, and with uncompromising persistence, in the belief that, so far as the joint is a healthy one, fixation is absolutely harmless, and that so far as the joint is diseased, fixation will, by subduing the inflammation, increase ultimate mobility.

There are, of course, other sources of obscurity, and this will be the case until we attain omniscience. I cannot but think, however, that the three points which I have tried to make dissipate some of the difficulties in the way of the unanimous recognition of correct methods.

Hemiglossitis.—Dr. R. Demme reports (*Wiener Medizinische Wochenschrift*, No. 7, 1886) a case of a child, aged six months, whose tongue became rapidly swollen, so that it projected from the half-opened mouth. Examination showed that the swelling was confined chiefly to the right side, the surface of which was covered with yellowish-white vesicles, from the size of a millet-seed to that of a pin-head, arranged in groups. Similar vesicles were visible also on the inner and outer sides of the right cheek. On the fourth day the swelling subsided as rapidly as it had come, and the vesicles dried up and disappeared. From the similarity in symptoms and course of the disease to those of herpes zoster, the writer regarded it as a form of this affection. Two similar cases, occurring in adults, are reported by Dr. P. Güterbock (*Centralblatt für Chirurgie*, No. 7, 1886). In both of these cases, also, the affection was confined to the right side of the tongue. In these and other cases the seat of the disease corresponded almost exactly to the area of distribution of filaments of the trigeminal nerve, and in some reported instances there seemed also to be a participation of the chorda tympani in the disturbance. The glosso-pharyngeal and the hypoglossal nerves, on the other hand, seemed in none of the cases to have any etiological relation to the affection.

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[1] St. Louis Courier of Medicine, May, 1881, pp. 367–372. New York Medical Journal, July, 1882, pp. 1–17; January 31, 1885, pp. 116–120. The Medical Record, May 12, 1883, pp. 509–512; July 7, 1883, pp. 1–4.

Clinical Department.

THE MODE OF PERFORMING COLOTOMY—WITH A CASE.

Dr. William H. Sherwood, of Painesville, O., writes: "In performing colotomy the colon has been approached in several different ways. Litter, in 1710, was the first, perhaps, to suggest this operation, and recommended reaching the sigmoid flexure through the left iliac region; but it was not until about sixty-five years afterward that his suggestions were carried out by Pillore, who cut into the cæcum through the right iliac region, and stretched the bowel to the parietes. This operation was undertaken in consequence of malignant disease of the rectum.

"About a quarter of a century later, in 1797, Fine operated through to the transverse colon in the umbilical region for cancer of the rectum. A short time previous to this, Callisen advised the left lumbar region as the best route, and the sigmoid flexure as the most proper portion of the intestine to be opened. When the obstruction is situated in the rectum or sigmoid flexure, undoubtedly the operation is most successful. In my judgment, left lumbar colotomy is much preferable to any other, and there is less danger of wounding the peritoneum. The incision as recommended by Amussat, and more recently modified by Bryant, is the best, as we more effectually avoid the inferior lumbar arteries, and on account of the gaping nature of the wound we can much better distinguish the parts. If an immediate incision into the bowel be demanded after the dissection down to the bowel, the method recommended by Agnew is the safest and best that has come under my observation. But this should always, if possible, be avoided. The intestine should be held *in situ* for four or five days, until adhesions have taken place. Bryant, Davies Colley, Lucas, and others have been in the habit of covering the blades of their dissecting forceps with French rubber tubing, and including a small portion of the bowel between them, with the forceps situated crosswise the wound. It occurred to me that a two-pronged, hard-rubber, ladies' hair-pin, with the prongs covered with French rubber and the inner surface lined with rubber adhesive plaster, would be just as effectual, and much lighter; and I am happy to say it served every purpose. The prongs, concave in their long dimension, admirably adapt themselves to the transverse surface of the lumbar region. Davies Colley had an instrument constructed that rested on each side of the wound, and fixed the gut in position by a screw with a universal end. But I think the hair-pin equally as good, much lighter, less cumbersome, less expensive, and not as likely to get displaced.

"Through the kindness of my friend, Dr. E. B. Root, of this city, I was called to see Mrs. F. S——, a lady aged fifty-seven, married, who had never borne children. She was much emaciated; pulse, 120, and the countenance denoting great suffering. Upon endeavoring to pass the finger up the rectum there seemed to be a very small and tortuous channel; in fact, it was impossible to explore it with any degree of accuracy. The vagina also was involved to that extent that hardly a semblance of an os or cervix could be distinguished, and during the imperfect, scanty, and painful evacuations a small amount of fæces could be observed escaping from the vagina. She did not suffer from tympanitis or emesis as much as usual in these cases, on account of the judicious use of the bougie in the hands of her family physician. As nearly as could be ascertained, the disease had commenced about eight months previously.

"Colotomy was advised as a palliative measure, and January 1, 1886, after she was thoroughly anæsthetized and placed in the proper position, assisted by Dr. E. B. Root and others, I commenced Bryant's incision on the left side, one inch above and one inch behind the anterior superior spinous process of the ilium, carrying it obliquely to the inferior rib, and within one inch and three-quarters of the spine. After carefully dissecting through the obliquus externus, internus, and transversalis facies the border of the quadratus came into view; after pushing my finger through the little bed of cellular tissue, the left kidney was found displaced downward, and somewhat enlarged, but not otherwise diseased. The kidney was pushed to one side, and after considerable difficulty in manipulating I succeeded in hooking my index-finger under the colon and bringing it into the wound, where it was securely fixed with the above-described clamp. The wound was dressed with carbolized oil, and its cutaneous portion, up to the intestine, nicely closed with silver suture. Then a thick compress of carbolized jute was placed over the wound, and a broad bandage was passed around the loins, securing the dressing.

January 2d.—Reaction had come on nicely, no elevation of temperature; pulse, 100.

"January 3d.—Very comfortable, very slight elevation of temperature; pulse, 90.

"January 4th.—No alteration; expressed a desire for food, was allowed beef-tea.

"January 5th.—No elevation of temperature. Examined the wound; adhesion had taken place perfectly. We removed the hair-pin and made an incision into the intestine three-fourths of an inch long; gas escaped quite freely.

"January 6th.—Is very comfortable, free from fever; pulse, 84; is hungry, and has had a slight movement through the new opening. Nothing new has occurred up to this—January 23d—in her case; the wound has entirely healed; the artificial anus is thoroughly established."

Progress of Medical Science.

Transplantation of Tendons.—Dr. Assaki states that it is possible to replace a portion of a tendon an inch or more in length by a similar piece taken from another animal. When the operation is performed under antiseptic precautions union takes place in about a week, without any impairment of function of the tendon, which glides in its sheath normally, unrestricted by adhesions. He has made successful transplantations, not only from one animal to another of the same species, but also from dogs to rabbits, and the reverse, and even from birds to mammals. Subsequent examination of the animals operated upon showed complete union of the sutured tendons, the only trace of the operation being an increased vascularization of the tendon sheath. The author argues that the operation ought to be equally successful in the human subject. In his experiments the transplanted portions were united to the divided tendons by catgut sutures, and strict antisepsis was maintained.—*St. Petersburger Medicinische Wochenschrift*, No. 7, 1886.

The Recurrence of Stone in the Bladder.—Mr. Reginald Harrison reports, in the *Liverpool Medico-Chirurgical Journal* for January, 1886, the case of a man, sixty-two years of age, upon whom he performed lithotomy twice at an interval of less than fourteen months. The first operation was very thoroughly performed, and it was thought that every portion of calculus had been removed, but the wound in the bladder never completely closed, and the writer believed that a sacculated stone had escaped detection. This view was strengthened by the appearance of the calculus removed at the second operation, as it was seen to consist of two layers, a nucleus and an outer friable phosphatic crust evidently of recent formation. Mr. Harrison regards the case as instructive in showing how impossible it is to be absolutely sure that every bit of calculus has been removed, and consequently how unjust would be the criticism passed, more particularly in the case of a young surgeon, if in a similar instance the patient should die and an encysted stone be found at the autopsy. In discussing the causes

favoring the reproduction of stone he says that an enlarged prostate is a very prominent one, and it seems to bring this about in two ways. In the first place, persons who may have been in the habit of voiding renal calculi for a considerable number of years find, after a certain age has been reached, that they no longer do so, and continued vesical irritation follows an attack of renal colic. The explanation lies in the fact that their prostates have commenced to enlarge, and thus stones which previously escaped spontaneously are practically trapped. In the second place, the large prostate, by permanently altering the shape of the outlet from the bladder, and thus causing urine to be constantly retained, engenders a state of chronic cystitis and excessive excretion of mucus, which are the invariable preliminaries to the formation of phosphatic stones. Mr. Williams has found, from the statistics of operations for stone in the bladder in the Norfolk and Norwich Hospital, during a period of ninety-seven years, that relapses occur in the proportion of one to thirty-six; but in these statistics both males and females are included, whereas, relapses occurred only in males, so that the proportion is really somewhat greater than these figures would indicate. Mr. Harrison prefers lithotomy in cases associated with enlarged prostate, with a view of improving the condition of the prostatic urethra by a free section, according to the method described by him at the International Congress of Copenhagen.

Araroba in the Treatment of Psoriasis.—Dr. Borogoditsky has used with success an ointment composed of one part each of araroba and acetic acid, in thirty parts of lard. The ointment is to be rubbed upon the affected parts two or three times a day. The author speaks highly of the good results obtained by him by this method.—*Centralblatt für Chirurgie*, No. 7, 1886.

Treatment of Sweating of the Feet.—Dr. Hebert gives, in the *Journal de Médecine et de Chirurgie Pratiques*, No. 2, 1886, the details of a method first suggested by Dr. Legoux, which he has found most efficacious for the relief of sweating of the feet. For three days the feet are bathed, for half an hour at a time, morning and evening, in tar-water. At the end of the third day the pediluvia are omitted, and the soles of the feet are painted once a day with perchloride of iron. After four days more the epidermis of the soles is found to be dry and hard. Dr. Hebert succeeded in obtaining a complete cure by this simple means.

Congenital Dislocation of the Patella.—Dr. Besselhagen has met with two cases of this rare condition, occurring in brothers, one of whom had a bilateral luxation, and the other a unilateral dislocation of the patella, with congenital dislocation of the hip. He has succeeded in obtaining the records of fourteen other cases, from a study of which he is led to divide the affection into three classes: 1, Complete luxations, in which the patella lies to the outer side when the leg is extended, but returns to its normal position on flexion of the knee; 2, intermittent luxations, occurring only during flexion, the patella resting on the outer condyle of the femur; 3, permanent luxations, in which the patella rests constantly on the external condyle in whatever position the limb may be, though the degree of dislocation may be increased by flexion. It was noted with some surprise that there was no in-deviation of the knee in any of these cases, but it was probably due to the fact that the internal condyle of the femur was always found to be smaller than normal, and also that the lower end of the shaft of this bone had an inward twist. In three of the cases studied there was an upward dislocation of the patella.—*La Riforma Medica*, No. 30, 1886.

Tubercular Meningitis Following Lupus.—Dr. Doutrelepont reports the case of a young man who came under treatment for lupus. He had cervical abscesses, and was pale and thin, but nothing abnormal could be discovered on physical examination of the chest. He was seized some time later with symptoms of meningitis, and died. At the autopsy miliary granulations were found in the pia mater at the base of the brain, and at the level of the fissure of Sylvius. Examination of a drop of blood drawn a few days before death showed three tubercle bacilli, and the same micro-organisms were found in the blood of the jugular vein after death.—*Rivista Internazionale di Medicina e Chirurgia*, No. 1, 1886.

Nux Vomica in the Treatment of Prolapse of the Rectum.—Dr. Schwartz has employed with success nux vomica for the cure of prolapse of the rectum, not only in children but also in adults, and in chronic as well as in recent cases of the affection. He dissolves a grain to a grain and a half in an ounce of distilled water, giving from six to ten drops to adults, five drops to a child ten years old, and two or three drops to an infant, every four hours. The author asserts that the prolapse disappears under this treatment in the course of twenty-four hours. In order to prevent a relapse he gives the remedy twice a day for a week. When the prolapse is of long standing and does not respond promptly to the action of the nux vomica he adds some extract of rhatany, which, by its astringency, prevents the increased action of the bowels sometimes caused by the nux vomica.—*Gaceta Médica Catalana*, February 15, 1886.

The Treatment of Ring-worm.—Dr. Saerlis recommends oil of turpentine for the cure of ring-worm of the scalp (*Medicina Contemporanea*). The hair should be closely cut over the affected part, and for a short distance around, and then turpentine is to be liberally applied, and rubbed in well with the finger. This is allowed to remain for about five minutes, and is then washed off with carbolic soap, and afterward with hot water, and the patch is then painted with dilute tincture of iodine, or with a two-per-cent. solution of iodine in turpentine. The application is to be made once or twice a day, and is not painful, though it causes a slight smarting. The writer asserts that he has cured, in ten days, by this method, cases of ringworm that have resisted all other modes of treatment.

Hemostatic Powder.—Professor Bonafoux, at a recent meeting of the Academy of Medicine, at Paris, read a paper upon a powder which possesses great hemostatic powers, and is capable, it is said, of arresting the bleeding of large arteries, so that it will prove serviceable in important surgical operations. The powder is prepared by mixing equal parts of colophony, carbon, and gum arabic.—*Medical and Surgical Reporter*, March 13, 1886.

Anæsthesia of the Hand.—At a meeting of the Midland Medical Society, held on February 3d, Dr. Suckling showed a man who had been under his care suffering from complete anæsthesia of the left hand (*The Lancet*, March 13, 1886). Ten months previously, in lifting an eighteen-gallon can of milk with a fellow-porter, his assistant dropped the can, and the patient suffered a severe strain of the arm; anæsthesia and paresis of the hand immediately followed. There was no trophic or electrical change, and the only symptom that might have indicated actual injury to the roots of the brachial plexus was a slight dilatation of the left pupil, which might have been due to irritation of the root of the first dorsal nerve. Dr. Suckling concluded that the case was one of functional hyperæsthesia, and probably due to hypochondriasis, the man seeming depressed. The functional nature of the affection was proved by his rapid recovery after faradization, and by the fact that if, when blindfolded, a mark was made some distance below the line where he said he could feel, when the bandage was taken off he always felt down to this mark, so that a daily diminution of the area of anæsthesia was produced by deceiving him in this manner.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 1, 1886.

SYPHILIS AND RACHITIS.

A CURIOUS example of a theory founded upon pure reasoning without the support of facts behind it—indeed, in the face of facts against it—was Parrot's assumption of the syphilitic origin of rickets. It will be remembered that, in the paper which he presented at the seventh International Medical Congress, held in London in 1881, he asserted that hereditary syphilis was the sole cause of rachitis, and that the latter was simply the most advanced stage of the osseous changes occurring in inherited syphilis.

Professor Parrot's argument, upon which his theory was based, is well summed up in the *Progrès Médical* of January 23, 1886. A careful examination of a number of anatomical preparations taken from the museum of the Hospice des Enfants-Assistés, led him to the following conclusions: 1. In still-born fœtuses, in abortions, and in newly born children dying from hereditary syphilis there is a production of new layers of bone-like tissue, true osteophytes, at the periphery of the long and flat bones; at the same time, in many cases, the cartilage in the neighborhood of the epiphyses is infiltrated with calcareous salts. 2. In a second type, certain portions of the bone are replaced by a soft, succulent, jelly-like tissue (gelatiniform atrophy), sometimes causing syphilitic pseudo-paralysis. 3. In a third type is found the spongoid tissue described by Jules Guérin. According to Parrot, the osteophytic change was the specific and characteristic lesion, and the others were merely degrees of the first, and did not differ from it in their essence or origin. If, therefore, the cause of one could be discovered, that of the others would be the same. The first two changes above described were to be found, he maintained, only in children presenting on the skin or in some of the viscera incontestable marks of hereditary syphilis, and he therefore urged that the third lesion, the spongoid tissue, was also dependent upon the same disease. Up to the day of his death Parrot maintained this theory, in spite of the strongest evidence to the contrary based upon clinical facts and upon the results of treatment.

It would seem to be a work of supererogation at this day to bring forward any new facts in opposition to these views, but yet, so well did Parrot and his followers argue their case, that there are still some who regard with suspicion the parents of every rachitic child, and we think, for their sake, and for the sake of the innocent parents, it may not be out of place to reproduce two striking cases published in *La France Médicale* of January 7, and February 9, 1886. The first case was that of Dr. L. Gaillard, who was called to attend a primipara in childbirth. Everything passed off well, and the case was lost sight of. Eight months later he was called to see the child, and found him suffering from well-marked rickets. On inquiry it was learned that the infant had been nursed for but a brief period, and was fed early on soups and bread-pap; he had also been poorly cared for, and was seldom taken out into the open air. A sufficient cause for the rachitis was therefore existent in the hygienic and dietetic conditions, and this was emphasized upon the birth of the second boy, who was well cared for and properly nourished, and who showed not the faintest signs of the disease. Over two years after the birth of the first child, and nearly a year after that of the second, Dr. Gaillard was consulted by the father, who had an indurated chancre on the prepuce, and soon after suffered from roseola, mucous patches, and cervical adenopathy. It was thus demonstrated that the father could not have been syphilitic at the time of the conception or birth of his children. The mother, had she been unfaithful to her husband, and had she had a syphilitic child by another man, ought (according to the general opinion of syphilographers), even though she manifested no specific symptoms at the time, to have acquired an immunity from the disease. But soon after her husband's misfortune she too presented all the symptoms of secondary syphilis.

This case demonstrates that a rachitic child may be born of non-syphilitic parents, and the second case, related by M. C. Giraudeau, shows that a non-syphilitic child may be born of rachitic parents, who themselves may acquire syphilis at a later period. Both the man and his wife presented numerous rachitic deformities of the bony framework. The first child was born dead, forceps being necessary to effect its delivery. At the second pregnancy premature labor was induced at the eighth month. This child lived, and was eight years old when first seen by Dr. Giraudeau. He then had impetigo, was suffering from suppurating cervical glands, and presented many well-marked scrofulous symptoms, but was free from any signs of rickets. Some months later the mother presented herself with all the evidences of secondary syphilis, and the father confessed to having had a chancre six months previously, which was followed by roseola and mucous patches. Some of the latter were still present at the labial commissures, and there was an indurated cicatrix on the penis. If these people, having had rickets, were the subjects of hereditary syphilis, it is difficult to believe that they could have acquired the disease in later life.

M. Giraudeau refers to other cases of like nature, but it is useless to relate them here, as these two seem to be all-sufficient to demonstrate to a certainty that rachitis is not solely and invariably dependent upon hereditary syphilis. It does not follow, however, that the two affections may not exist in the same individual, and react one upon the other to intensify the osseous lesions. It may well be, as Mr. Hutchinson remarked in one of his Lettsomian lectures, that the existence of the rachitic state in an infant who has also an inherited taint of syphilis may

give a decided tendency to bone-disease, and more especially to affections near the epiphyses. The local pathological product may also be a mixed one, and partake of the combined influence of the two causes. There is, indeed, no reason why the two causes should not mix. But this is very far from admitting that the two processes are identical, or from imputing syphilis to one or both parents of a rachitic child.

A WARNING TO THE CARELESS.

CLEANLINESS is said to be next to godliness, but we are not sure that this order might not be reversed, in many cases at least, with the result of increasing the sum total of physical comfort and health. One immense advantage of Listerism, which even the most obstinate opponents of the method will not venture to deny, is that it insures absolute surgical cleanliness, and many, indeed, believe that herein consists its sole merit. But, be that as it may, the medical profession, or rather the community at large, has cause to congratulate itself that it is living under the new dispensation of the gospel of cleanliness, and not dying from poison unconsciously administered by a careless and dirty medical attendant.

A case occurring in the service of M. Lancereaux, at the Hôpital de la Pitié, and reported by M. Bezançon in *L'Union Médicale* of March 23, 1886, contains so evident a moral that we think it deserves prominent mention. The patient was a robust man, fifty-three years of age, who came under treatment for acne syphilitica. He denied ever having had an impure connection; there were no evidences of a primary lesion about the genital organs, and the inguinal glands were normal. In the neck, however, and about the inferior maxilla, were several enlarged and indurated glands; these were confined to the right side, the left side being entirely free. Upon inquiry as to the possible means of infection, it was ascertained that the man was deaf in the right ear, and that catheterization of the Eustachian tube upon this side had been performed several times. The second operation, practised some six weeks after the first, had been followed by a sanious and bloody discharge, which, it seems probable, came from the then fully developed primary sore. Allowing twelve weeks from the inoculation to the appearance of the cutaneous lesion, the correspondence in dates would be perfect, and would point to the first catheterization as the period at which the disease was communicated.

Other cases of like nature have been reported. During the years 1864 and 1865 there was quite an epidemic of syphilis in Paris, due to the negligence of a physician who, among other specialties, had that of communicating the disease through the nasal passages. And we doubt not that many an unfortunate has acquired syphilis from catheterization of the urethra, although, as there was a sufficient cause already existing, the instrumentality of the medical attendant may never have been suspected.

A physician or a surgeon cannot be too careful in cleansing his instruments—especially those employed in the various mucous cavities for the purposes of diagnosis—every time that they have been used. They ought always to be washed in a sublimate or carbolic solution, and, if possible, passed through a flame. The practice of putting a clinical thermometer under a patient's tongue, and then returning it to its cloth-lined case after a hasty wipe (as is often done), is particularly deserving of condemnation.

CARELESS INDORSEMENTS BY PHYSICIANS.

WE publish below the letter of a prominent physician of this city, and trust that our readers will take note of the warning which he gives.

The petition referred to may be a very good one, but, on the other hand, there is unfortunately some reason to suppose that it may contain some job. Aside from any other consideration, the language of the petition is so extraordinarily ungrammatical, and in parts meaningless, that we cannot believe that it has been carefully read by the distinguished gentlemen who have so far signed it.

Our correspondent says: "I have just been asked to sign the most innocent-looking document—an appeal to the Health Officer to rigidly disinfect all rags, etc., coming into this port. It is already signed by probably fifty of our leading men, who in signing it doubtlessly thought that they were performing a praiseworthy act of good citizenship in giving their approval to this appeal. Now, what are the probabilities in this piece of business? Is it not more than likely that as time goes on it will be discovered that the good name and great influence of our profession have been made instrumental in promoting, not the welfare of the community at large, but the invested interests of some great monopoly?

"Perhaps I am all wrong in my fears, but when I recollect how, on more than one occasion, the good name of the profession has been dragged through the mud through the good-natured signing of just such an innocent-looking appeal as this, by the very best physicians of our city, I feel like begging you, in your editorial capacity, either to investigate and demonstrate the groundless character of my fears, or to sound a timely note of warning."

FURTHER OBSERVATIONS WITH REGARD TO INTRA-PULMONARY INJECTIONS.

DR. SHINGLETON SMITH has made intra-pulmonary injections forty-two times in five cases. The ethereal solution of iodoform, in solutions of one grain to five minims, was used for the purpose. No harm was done by any of the injections. The positive results were, in a case of lung gangrene there was diminution of fetor and some temporary alleviation of symptoms. In one case of chronic tubercular pleurisy there was very marked improvement; in two other cases there was a slight improvement. Dr. Smith injected the fluid into cavities in the lungs, not into consolidated tissue.

At a meeting of the Clinical Society of the Post-Graduate School, February 7, 1885, Dr. M. Putnam-Jacobi reported one case in which injections of iodine had been used; Dr. Wendell C. Phillips reported two cases, and Dr. A. H. Smith reported one case. In all instances dilute solutions of iodine were used. No bad symptoms followed, while in one of Dr. Phillips' cases, and in the case of Dr. Smith, some improvement was apparent. In this latter case the injections were given every three hours for two weeks, during which time the patient gained three pounds and a quarter. From five to ten minims of

a solution containing one part of Lugol's solution to five of water were employed.

Dr. Gouguenheim has recently described his experience with parenchymatous injections of bichloride of mercury in phthisis. These he made both into the consolidated lung (in solutions of 1 to 2,000) as suggested by B. Robinson, and into cavities (in solutions of 1 to 1,000 and 1 to 500).' About fifteen drops were used at a time.

Dr. Gouguenheim employed this method in thirty-three cases, in twenty-one of which there was much improvement. Cough and transitory hæmoptysis occasionally occurred, and no pain was caused. The needle used was a long one, and the injection was made in the first or second intercostal space. Arsenic, quinine, and cod-liver oil were given during the course of treatment.

A novel method of employing intra-pulmonary injections has been devised by Dr. Max Reichert, of Rostock, and an account of it is given in *The Medical and Surgical Reporter* of March 6th. This method consists in injecting medicated liquids directly through the larynx into the trachea and bronchi. The method was tried six years ago for chronic bronchitis, but Reichert introduces and systematizes its use in phthisis. Some experiments on animals led him to believe that the injections are distributed throughout the lungs. The substances used were solutions of the volatile oils, salicylic acid, and chloride of zinc. The best results were from eucalyptus oil and salicylic acid. A description of the technique is given in *Archiv für klinische Medizin*, vol. 37, H. 5. Reichert claims to have employed his injections in sixty cases, always with favorable results.

DIPHTHERIA NOT A SEWER-GAS DISEASE.

Dr. Erwin F. Smith, in an elaborate paper on the "Influence of Sewerage and Water-supply on the Death-rate in Cities" (Report of Michigan State Board of Health, 1885), claims to establish the three following propositions:

1. Typhoid fever and cholera decrease in proportion as a city is well sewered.

2. There is no direct relation between diphtheria and sewers.

3. The general death-rate falls after the sewering of a city, and, other things being equal, never again reaches the maximum of its anti-sewered condition.

4. The cost of sanitation is incomparably less than that in sickness and death resulting from neglect of sanitation.

Dr. Smith's statements with regard to diphtheria and sewerage are:

"1. Diphtheria is as frequent in the country as in the city, *i.e.*, in non-sewered as in sewered districts.

"2. Diphtheria has been more frequent and fatal in certain rural districts than in any city whatsoever.

"3. Diphtheria is not more frequent or fatal in sewered cities than in unsewered ones.

"4. Of two given cities, equally well- or ill-sewered, diphtheria, during a long series of years, may be widely prevalent in the one and rare in the other.

"5. Certain sewered cities have never suffered seriously from diphtheria, while others have been afflicted very much worse in recent years (*i.e.*, since the houses have been protected from sewer-air), than formerly, when with the same sewers, but much less perfect plumbing, flushing, and ventilation, the sewer-air found its way into a majority of the houses.

"6. When an epidemic of diphtheria appears in a city the sewered and unsewered portions generally suffer alike.

"7. No relation of interdependence can be traced between diphtheria and the sanitary state of a city, such, for example, as enables us to predict with almost absolute certainty the typhoid fever mortality of a city from a knowledge of its sanitary condition, or conversely, the sanitary condition from its typhoid mortality.

"8. The annual mortality from diphtheria fluctuates greatly, and this, too, in cities where the sanitary conditions are very nearly constant.

"9. Diphtheria is a disease of cold weather, being most active when putrefactive decomposition in sewers is presumably least so.

"10. Diphtheria is a contagious disease, transmissible from person to person and place to place, like small-pox and scarlet fever.

"11. The closing of schools and other places of public gathering checks an epidemic; and the isolation of the sick from the well, with the subsequent proper disinfection of the sick-room and its contents, extinguishes it.

"12. The data relied upon to prove a connection between sewerage and diphtheria either cover too short a period to be trustworthy, or are drawn from single cities having incomplete and defective sewerage.

"If these propositions be true, it follows as a necessary corollary that there is no direct relation between sewers and diphtheria."

These conclusions are based upon a study of the vital statistics of a large number of European and American cities and districts.

These are not at variance with any settled views as regards the origin of diphtheria. Many individuals have reported cases which seemed to originate from sewer-gas, but the most careful authorities have not been disposed to attribute to sewer-gas more than a predisposing influence.

A Better Fee than Billroth's.—Dr. C. Beard (retired), late of New Orleans, now of Boston, writes: "Referring to your mention, in your last number, under 'News of the Week,' of the fee, 25,000 francs, to be received by Professor Billroth, of Vienna, for an operation to be performed upon a wealthy banker of Alexandria, Egypt, in 1858 I was paid a somewhat larger sum—$5,000—for a cataract operation on Mr. Lastie Duprée, of Opelousas, La., and did not leave my home. Judging from the unction with which the announcement is made abroad, the foreign estimate of the value of distinguished services, at the present day, must be at least no higher than it was in this country before the war, and fees paid to distinguished men much lower than they were, according to my recollection, when I was in Europe in 1849–52."

There are Nine Physicians in the House of Representatives, according to the *Weekly Medical Review*, which journal at the same time hopes from them a benign influence on legislation.

News of the Week.

THE SULTAN OF TURKEY has decided to send a commission to M. Pasteur's laboratory to study his method of inoculation for hydrophobia. The members of the commission are Zocros Pasha and Hussein Bey, medical men, and Husni Pasha, veterinary surgeon. Zocros Pasha will present M. Pasteur with the Order of Medjidie and $2,000, a subscription from the Sultan for the Pasteur Institute.

DEATH OF DR. WILLIAM L. HARDY.—The sudden and unexpected death of Dr. Hardy, of this city, has excited sorrow and regret among a very large circle. Dr. Hardy's name was a familiar one to the profession and public, and he had long been a faithful worker in the field of mental diseases. His death is believed to have been caused by the exposure and overwork incident to his duties as physician to the Tombs and city examiner of the insane. Dr. Hardy was born in this city on May 18, 1849, and was educated at the New York College. He studied medicine at the Bellevue Medical College, and at his graduation was appointed Inspector in the Health Department. He was afterward surgeon of the old Park Hospital, and of the city schoolship Mercury. In 1875 he was placed in charge of the Insane Asylum on Ward's Island, and he remained there five years. He was recently appointed by Mayor Grace one of the Board of Civil Service Examiners.

CLEAR WATER IN THE ADIRONDACKS.—Mr. Joseph T. Duryea, of Boston, writes: "I notice that a writer who reviews the book of Dr. Stickler on 'The Adirondacks as a Health Resort,' doubts the statement that in some regions the water is so pure that one might read a newspaper through seven or ten feet of it. Of course, if one could not read a newspaper seven or ten feet from the eye under any conditions, he could not read it through seven or ten feet of the purest water. Every person who has travelled much in the woods will remember springs in which he has seen labels lying on the bottom, fallen from bottles of claret hung by cords in the water to cool. There is such a spring near one of the Tupper lakes, and any number of them here and there can be seen. Let the writer visit Clear Pond, near Long Lake, or the chain of ponds on one of the routes between the Upper Saranac and St. Regis Lake. There is not a fisherman of any experience who has not seen the spots of a trout many a time through 'seven or ten feet of water,' in many a 'spring-hole.' The doubt is of small importance to me; but I would not like the expression of it by the reviewer to cause any doubt as to the accuracy of the contributors to a very useful book."

NO PROMISES TO PAY THE EXPENSES OF FOREIGN DELEGATES TO THE INTERNATIONAL CONGRESS.—Dr. John S. Billings, of Washington, D. C., April 26, 1886, sends us the following explanatory note: "Before seeing your editorial of April 24th, my attention had been called to the statements of Dr. Petit, as to what he understood I had promised European physicians who might wish to attend the International Medical Congress in this country, and I had written to him to explain what I really did say. It now seems proper to send you the same information for publication, in order to do away with possible doubts and misapprehensions among physicians in this country. I did not make any promise, or express any belief, that the expenses of European physicians coming to the Congress would be paid by the United States, or by any other party than themselves. Even had I had such a belief, I should not have mentioned it as an argument to induce the Committee to select the United States as the place of meeting, for it would have seemed to me exceedingly bad taste to have done so. What I did say, in reply to the objection as to the expense of the journey, was, that I hoped and believed that arrangements could be made with some of the lines of transatlantic steamers by which the expense would be reduced. One of the English members of the Committee then spoke of the very liberal arrangements as to excursions, etc., which are made in this country in connection with scientific meetings, and asked me whether, at the meeting at Montreal of the British Association for the Advancement of Science, a free trip to Philadelphia and return was not given to the members, to which I replied that such was the case. I also said that while we should do our best to take proper care of our guests, it must be remembered that we should not be favored with government and municipal appropriations, as was the case at Copenhagen, but that the necessary funds must be raised by American physicians, and hence that we could not promise to rival the magnificent entertainments of the London and Copenhagen Congresses. I regret very much that my remarks should have been misunderstood by Dr Petit, who is, I feel sure, perfectly honest in his belief that his statements are correct. I can only account for the mistake by supposing that he is not as familiar with spoken English as he is with our literature. I had not seen his *feuilleton*, and have endeavored to correct the misunderstanding as soon as it was brought to my notice."

FOREWARNED, FOREARMED.—"Good morning, children," said an Austin physician, as he met three or four little children on their way to school, "and how are you this morning?" "We darsn't tell you," replied the oldest of the crowd, a boy of eight. "Dare not tell me!" exclaimed the physician, "and why not?" "'Cause papa said that last year it cost him over fifty dollars to have you come in and ask us how we were."—*Texas Siftings.*

A NEW DODGE ON PHYSICIANS.—A correspondent sends us the following: "Please call the attention of the profession to a little, black-haired crank, or blackguard, who makes appointments with physicians to meet Dr. Blank in consultation. The writer was by this token treated to an agreeable interview with two well-known physicians of our city, who had also received a visit and summons from the Gallic vagrant. I turn him over to your columns herewith."

ASSOCIATION OF AMERICAN MEDICAL EDITORS.—The annual meeting of the Association of American Medical Editors will be held in St. Louis, May 3, 1886. The programme for the occasion has not yet been announced, but will embrace an address by the president, papers by well-known authors, and perhaps a banquet.

THE DEATH OF DR. R. H. BENJAMAN, of Riverhead, L. I., is announced. He graduated in medicine at the Berkshire Medical College in 1842.

DR. WILLIAM H. FORBES has been elected Professor of Anatomy at Jefferson Medical College, Philadelphia, in place of Professor Pancoast, who recently retired.

THE CORNER-STONE OF THE NEW MEDICAL COLLEGE BUILDING.—As announced last week, the corner-stone of the new College building to be erected by the College of Physicians and Surgeons was laid last Saturday afternoon, with impressive and interesting ceremonies. The site of the building is at the corner of Fifty-ninth Street and Tenth Avenue. The exercises were opened with prayer by the College chaplain, Rev. S. H. Weston; Dr. John C. Dalton, President of the College, then lifted a metal box by a strap, gently deposited it in a square bed of fresh cement, and covered it with a marble slab. The box contained, so he told the people who watched him do it, several catalogues of the College, copies of the city newspapers and medical journals, the original letter of William H. Vanderbilt proffering the Trustees the gift of the new building, and the original resolutions of thanks in which the gift was accepted. Then Mr. George W. Vanderbilt, youngest son of William H. Vanderbilt, stepped forward and performed the ceremony of laying the corner-stone. An address by Chauncey M. Depew followed. After alluding to the enduring and wide-spread influence for good which results when wealthy men establish great charities, he said: "But how most wisely to invest the money which is to carry out a charitable purpose is not an easy problem. It is often partly wasted to gratify the vanity of the donor. Mr. Vanderbilt had become familiar by his own sufferings, so patiently endured that none but his intimate friends knew of them, with the beneficent effects of medical skill and the possibilities of its growth. With his strong common-sense he saw that here was practically an untried field, where the advancement of science might work out the most beneficent and benevolent ends. Libraries, hospitals, and art and literary institutions existed in numbers, each doing in its own way admirable work. While in the Old World governments fostered schools of medicine, here their only patrons were the profession, and there was not a single great endowment in the land. To build a college to be called by his name was a temptation, but in a city where so many excellent universities already existed he saw that the wiser use of his money was to develop and enlarge an old institution, whose age, traditions, and experience were of incalculable value, and constituted a permanent capital which wealth could not create. In selecting the College of Physicians and Surgeons he chose the oldest in years, and the equal in rank and equipment of the best." Mr. Depew then outlined the history of the College, its early struggles, and its influence on the progress of medicine in America for a century. Its founders established the first free dispensary New York ever had. Mr. Depew recited the incidents of the old struggle for supremacy with Columbia College, which became one of the political issues of the time, and ended in triumph for the Physicians and Surgeons. Then he said: "The College of Physicians and Surgeons becomes one of the strongest and best-appointed schools in the world through the medium of the splendid benefaction we this day commemorate. Upon these grounds, donated by William H. Vanderbilt, whose gift erects, furnishes, and endows a building equal to all the requirements of the present and the needs of the future, Mr. William D. Sloane builds the Maternity Hospital, and the generosity of his wife endows all the beds, making them free; while the four sons create the clinic, which will be a vast dispensary, giving without charge to the poor, for all time, medicines and the best professional attendance, as a memorial to their father—more grateful to him if living, and to his spirit now that he is dead, than stately shaft or gorgeous mausoleum. A private benefaction renders possible the construction and equipment of a medical college superior to any ever known in this country, and equal to the best in the world. With this endowment, and the impulse and inspiration which will follow it, New York will become the centre of medical learning, education, and acquirement for the American continent." Among the listeners were numerous students, the Faculty of the College, and many prominent physicians of the city. A delegation of Columbia College boys attended in a body, with blue and white ribbons streaming from their canes, and at the close of the ceremony they gave three rousing college cheers for the Vanderbilts collectively, Chauncey M. Depew, and Dr. McLane.

THE DOSE OF MORPHINE IN INFANTILE CONVULSIONS.—Dr. C. S. Scofield writes: "I find by my notes, which were mislaid when I wrote the report of a case of infantile convulsions treated by injections of morph. sulph., that the amount used was $\frac{1}{12}$ gr., half of a $\frac{1}{6}$-gr. morphine tablet being used at each injection, instead of half of a $\frac{1}{4}$-gr. tablet. All the cases which I have seen reported were treated with a large single dose. I prefer small repeated doses as being safer."

DR. B. F. HARRISON, of Wallingford, Conn., died on April 24th, in the seventy-fifth year of his age. He was a graduate of the Yale Medical School, and it is reported that part of his estate will go to that institution.

THE PRESENTATION OF A LOVING CUP TO THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—On Wednesday evening, April 14th, on the occasion of the ninety-ninth anniversary of the founding of the College, more than one hundred of the Fellows sat down together at dinner, Dr. S. Weir Mitchell, the president of the College, occupying the head of the table. After the cloth was removed, Mr. Horace Howard Furness, on behalf of two ladies, descendants of two of the founders of the College, presented to the College, in a happy speech, a massive silver loving cup.

PASTEUR AND HIS PATIENTS.—M. Pasteur has been unfortunate in his treatment of the ten Russians bitten by a mad wolf, for three of them have already succumbed, but they were those who were the most severely wounded. Pasteur believes that the rabies of the wolf is more active than that of the dog, and that the period of incubation is shorter. He intends submitting the remainder of the Russians to a triple series of inoculation. Six persons from Finland have arrived at the Rue d'Ulm, and up to the present over seven hundred persons have been treated by him. The subscription in favor of the institute amounts to over $100,000.

AURAL HALLUCINATIONS.—Alluding to Dr. Sexton's case, presented to the Practitioners' Society, and reported in THE RECORD for April 3d, a correspondent writing from Millwood, Kan., states that he now finds this symptom in alcoholism so invariably as to regard it as pathognomonic. Dr. C., our correspondent, will note that Dr. Sexton's case had become one of cerebral disease, and that the hallucinations which occurred subsequently remained. We cannot agree with our correspondent that aural hallucinations depend on the impurity of the whiskey drunk in his neighborhood, since these symptoms are not unusual during the progress of delirium tremens.

WILLARD ASYLUM, which has upward of one thousand eight hundred insane chargeable to counties, has reduced its price per capita to $2.20 per week. At this rate the insane have the highest grade of care at a minimum cost to the counties. It is poor economy for any county to build and maintain an asylum when its insane can have better care at a much lower rate in a State asylum.

THE SCHOOL FOR ATTENDANTS, organized in the Buffalo Asylum for the Insane, is about to hold its first Commencement. Six attendants have completed the course of instruction, and have been found qualified to receive the diplomas of the school. The occasion will prove interesting as the first in the annals of the public care of the insane. The exercises will occur on Tuesday the 20th inst. The example of the Buffalo Asylum should be followed by other asylums of the State, and thus raise the grade of qualification of attendants in all our large asylums.

A NEW SIGN IN AUSCULTATION.—Professor Pitres, of Bordeaux, indicates a new sign in auscultation. Dr. Davezac describes it as follows in the *Journal de Médecine de Bordeaux:* The patient is seated, and is auscultated in the dorsal region. An assistant places a sou on the thorax, in different parts, according to directions, and percusses. The ear of the auscultator listens at the opposed corresponding parts. The healthy side is first examined; then the side with pleurisy, where the note is much higher. A clear metallic sound indicates pleuritic effusion; when this sound is absent there is no effusion. —*British Medical Journal.*

GAMBETTA'S brain was stated by Mr. A. Bloch, a few months ago, to be of unusually small size, weighing only 1,160 grammes, or 38.4 ounces. At the meeting of the Société d'Anthropologie of March 18th, Professor Duval added, further, some interesting details of its conformation and structure. In comparison with brains of subjects who were known to have been of deficient mental powers, such as possess only a feeble development of the third frontal convolution, Gambetta's brain was found to have an extreme development of this convolution, and the fissures very numerous and very complicated. This development furnishes confirmatory evidence of Broca's discovery of the localization of speech in this convolution. In addition to other peculiarities, the right quadrilateral lobe was found to be very complicated, with numerous fissures in its lower part; and the occipital lobe was extremely reduced, especially on the right side. —*Science.*

Reports of Societies.

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

Eighty-eighth Annual Convention, held at Baltimore, Md., April 27, 28, and 29, 1886.

(By Telegraph to THE MEDICAL RECORD.)

TUESDAY, APRIL 27TH—FIRST DAY.

THE Eighty-eighth Annual Convention of this body was convened in the medical library, Athenæum Building, corner St. Paul and Saratoga Streets, Baltimore, Md., Tuesday, April 27th, at 12 M., DR. JOHN. R. QUINAN, President, in the chair, and DRS. G. LANE TANEYHILL and ROBERT T. WILSON, Secretaries.

THE PRESIDENT'S ADDRESS

was the first order of business after organization. It was

ON THE CHARTERED RIGHT OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND TO EXACT LICENSES TO PRACTISE IN THE STATE.

After a few preliminary remarks, the speaker proceeded to lay before his hearers the results of his examination of the legal records of the State bearing upon the above subject. As early as 1795 the physicians of Maryland saw the need of protection against quackery. As the result of meetings summoned through the press, the Medical and Chirurgical Faculty was finally incorporated under its present charter in 1798. Power is granted to the Faculty through its Medical Board of Examiners "to grant licenses to such medical and chirurgical gentlemen as they, either upon a full examination, or upon the production of diplomas from some respectable college, may judge adequate to commence the practice of the medical and chirurgical arts; each person so obtaining a certificate to pay a sum not exceeding ten dollars." No one practising was allowed to receive payment for his services without having obtained such certificate, under a penalty of fifty dollars for each offence, to be recovered in the county court where he may reside by bill or presentment and indictment, one-half for the use of the Faculty, and the other for that of the informer.

In 1801 they secured a supplementary act to enforce under penalties the same power. In 1816 and 1818 further slight amendments were made. In 1821 persons not licensed were disabled from suing or receiving compensation for professional services. In 1838 an act was passed by the Legislature, entitled "An Act to authorize Thompsonians or Botanic physicians to charge and receive compensation for their services and medicines," which made it lawful for each and every person being a citizen of the State to charge and receive compensation for their services and medicine in the same manner as physicians are now permitted to do. He cited the whole of this absurd act to show the inconsistency between the title and body of it—one for the benefit of a certain class of quacks, styling themselves Thompsonians, the other for the benefit of every white citizen of Maryland who chose to assume the rôle of doctor. The inside history of this legislative monstrosity was, he had been told, "that a bill of this kind for the benefit of these charlatans was gravely offered by some Solomon, and its absurdity was so transparent that some waggish member tacked on its present body to the original title, and made a hybrid equal to Barnum's mermaid, thinking thus to kill off its supporters."

This, however, with the early death of Thompsonianism, soon became inoperative and void, and is now only remembered as a grim legislative joke. These are the only statutes on record, except unimportant ones of 1861 and 1862. It is thus evident that since 1798 there has been no legislative act offered or passed to infringe upon or impair the power of this Faculty to require licenses throughout the State (except the absurdity of 1838, now inoperative); but, on the contrary, many acts secured by

the efforts of this Faculty to confirm, enlarge, and enforce this power, and he confessed that, as he had been led to infer from the opinions of others that our statute-books bristled with hostile legislation, he was the more agreeably surprised at the result of his examination. Nor did the privilege granted to the College of Medicine of Maryland—later the University of Maryland—to grant diplomas render the licensing power of the Faculty nugatory, this charter being subsequent to ours, and, of course, not impairing a prior contract. Such a thing would violate the Constitution of the United States and Bill of Rights of the State. The above institutions sprang from this Faculty, and always showed warm attachment to it. The governing power of the College of Medicine consisted in greater part of the Board of Examiners of this Faculty. The Medical and Chirurgical Faculty constituted its patrons and visitors, and the President of the Faculty its chancellor. The Faculty of the College was required to report biennially the progress of the College to this body. All this shows that no interference with the licensing power of the Faculty was intended, and *that act of* 1798 is to-day the law of the *State, and can be enforced as such.*

The President's address was listened to with rapt attention and frequently applauded. It was a genuine surprise to everyone present, as it is a prevalent impression among the Maryland physicians that the right to regulate the practice in the State, and to issue licenses therefor, has long since passed out of the hands of the Faculty. The subject of a medical law in the State is one which has lately been much in the minds of the physicians here, and the difficulties of securing acceptable legislation are generally appreciated. If, therefore, a forgotten law can be revived, in which we get rid of the bugbear of irregular practitioners and their recognition, it will prove to us a great boom. The conclusions of the President were therefore received with great applause.

After adopting a vote of thanks for the address, Dr. Waters moved the appointment of a committee, consisting of the President and two others, to investigate the matter still further and report.

Dr. P. C. Williams inquired as to the expense connected with such an investigation and the employment of legal advice.

Dr. Gundry thought the law had lapsed by neglect to enforce it, and that moral sentiment would be an insuperable obstacle to its enforcement.

Others spoke in favor of the motion, which was adopted. Drs. Waters and B. B. Browne were appointed to act with the President on the committee.

THE TREASURER'S REPORT

showed the assets of the Faculty to amount to $9,549.40. This includes value of library, estimated at $9,000. The total receipts for the year were $1,628.29; disbursements, $1,769.79, leaving a deficit of $141.50. The building fund of $500 had been reduced, by the expenses of moving last October to our present quarters, to $192.70. The Library Committee had received $539.81 for the maintenance of the library. Nine members had been added, 2 resigned, 4 dropped for non-payment of dues, 5 died.

The Board of Examiners presented the names of seven persons—one a lady, the first who has applied—who are candidates for membership.

The Library Committee presented an interesting report, showing a very prosperous condition of the library and very satisfactory growth during the year. Considering the very insignificant resources at command, the development of the library may be considered very remarkable. The number of bound volumes now amount to 5,000, 830 having been added during the year, chiefly through the generosity of individual donors. Sixty-six journals are now regularly received, besides a large number of foreign and domestic society transactions. The donation of several portraits, old diplomas, and other interesting relics was also acknowledged.

WEDNESDAY, APRIL 28TH—SECOND DAY.

After the reading of the minutes, Col. George E. Waring, of Newport, R. I., proceeded to deliver

THE ANNUAL ORATION,

the title of which was

THE REMOVAL AND DESTRUCTION OF ORGANIC WASTES.

The speaker began by stating his embarrassment in finding a suitable subject for a medical audience, as he was absolutely ignorant of nearly every detail of the science and practice of the art. He could hardly claim even a subjective knowledge of the latter, as among the good things which had befallen him had never been the training of a good patient. He belonged to a profession that was called on to do some of the rough mechanical work on which the improvement of certain conditions of living depended.

In discussing his subject he very properly referred to the influences of organic waste on the health of communities, and of their association with the advances of civilization. The diseases of civilization were those of bad sewerage. Their prevention was the removal of the cause. The cardinal rule should be that every organic substance, of whatsoever sort, when its usefulness has passed, and its stability is threatened, should be immediately and completely removed to a distance. Being so removed the safety of the household or community by which it was produced is essentially assured. Its subsequent history is interesting chiefly with reference to those into whose presence we may have sent it. Their safety is to be secured by insuring its destruction under conditions which will not favor the pernicious results attendant on restricted and aborted decomposition. It seemed prudent to predict that the world will before long accept what now seems to be the demonstrated proposition that all that we need consider with regard to municipal organic wastes, to prevent their interference with health and life, is to get them out of our neighborhood while still in their fresh condition, and then to secure their rapid resolution into their inorganic elements. Briefly, speedy and complete removal with speedy and complete decomposition. It was not simple nor easy to apply such a formula in its entirety, owing to prejudices and preconceived ideas.

He then concluded by sketching a detailed plan for the more effective sewerage of Baltimore.

Dr. Randolph Winslow, in the Surgical Section, discussed the following subjects:

TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN AND OF INTESTINAL OBSTRUCTIONS, OPERATIONS FOR PYLORIC STENOSIS, AND RESECTION OF THE LARGE INTESTINES FOR CARCINOMA.

Under the first head was mentioned Dr. John B. Hamilton's remarkable and successful case of laparotomy for pistol-wound of the abdomen. He operated three hours after the injury, suturing eleven wounds in the small intestine, two in the ascending colon, and ligating a bleeding artery in the mesentery. On the seventh day fæces passed per anum. On the twelfth the ball was evacuated, and a good recovery ensued. Allusion was also made to the case of Dr. A. V. Park, of Chicago, who performed laparotomy unsuccessfully for penetrating gunshot wound of the abdomen in a boy, aged sixteen, entering the small intestine in two places and tying a small mesenteric artery. Death ensued sixteen hours later from peritonitis, and the autopsy revealed an undiscovered contusion of the rectum. The chances for success in this case were much diminished by the length of time between the injury and the operation, and the moving of the patient twice, which necessitated his travelling a number of miles.

The remarkable experience of Dr. Edmund Andrews, also of Chicago, was commented on. We have here four cases of penetrating wounds of the abdomen, occurring

in Chicago. Two recovered promptly without any operation, one recovered in spite of laparotomy, and one died notwithstanding it. Truly an interesting commentary. By far the most interesting contribution to the elucidation of the subject is Dr. Dennis' elaborate article; but the speaker took issue with him when he says, "all these patients are necessarily mortally wounded, if penetration and perforation have taken place," numerous cases having recovered after intestinal as well as stomachal perforation. Quoting Otis' statement that there was no incontestable instance of recovery in penetrating gunshot wounds, Dr. Winslow thought this might apply in military, but it did not in civil practice, probably because the pistol figures much more largely in the latter. Dr. Winslow criticised quite severely Dr. Dennis' method of dealing with a stab-wound of the abdomen, and thought it was carrying the principle of ocular inspection a little too far. It is just such a procedure which is likely to bring discredit upon the operation of laparotomy in these cases of abdominal injury.

The discussion upon this subject at the New York Academy of Medicine, last December, was commented on. In summarizing the prevailing professional opinion in regard to the treatment of penetrating abdominal wounds, it appears that there is an almost unanimous consent to the propriety of performing laparotomy when there is reason to believe that serious injury of any of the hollow viscera has occurred, or that hemorrhage is taking place; but there are certain cases in which the nature of the lesions is doubtful, and it is in such cases that diversity of opinion exists. For my part, I am more firmly convinced than ever that where there is a strong probability that serious intestinal injuries have been received, a laparotomy ought to be performed; but I think a certain amount of conservatism ought to be indulged in, especially in regard to wounds from bullets of small size or from stab-wounds, many of which either do not penetrate the viscera or produce such small holes as to do no material harm. He took this opportunity to mention one fact in regard to the suturing of intestinal wounds, and that was, never to bring the cut surfaces together edge to edge, but by means of the Lembert suture invest the peritoneal borders so that narrow bonds of peritoneum are approximated. When this was done union was effected easily and effectually.

Under the second head Dr. Winslow said the confusion in regard to treatment arose from inability in a large majority of cases to make an accurate diagnosis. He characterized Jonathan Hutchinson's abdominal taxis under anæsthesia as a rather rude and unsurgical method. In Dr. Winslow's opinion a case of intestinal obstruction should first have the benefit of rational medical treatment, first by laxatives, to overcome a possibly obstinate constipation; then by copious enemata, with the patient in the genupectoral or completely inverted position. If the symptoms are not severe, belladonna or opium may be administered in large doses; but if the patient present urgent symptoms—severe pain, obstipation, constant vomiting—especially if the character of the latter become feculent, no time is to be lost. The abdomen should be opened in the linea alba, below the umbilicus, the cause of the arrest ascertained, and the constriction released. He thinks a strangulated bowel within the abdominal cavity should be treated pretty much as a strangulated bowel outside of it.

If a patient with hernia present symptoms of strangulation, an anæsthetic is administered and gentle taxis employed. If this fail, most surgeons proceed at once to kelotomy, as in internal hernia and other obstructions. It is not often possible to locate either the nature or the seat of the lesion: he does not think much manipulation of the abdomen should be allowed, lest harm, and not good, result; but after the failure of enemata and laxatives, laparotomy should be performed, and the incarcerated bowel released. He regards enemata under heavy pressure, as advised by Illoway, of Cincinnati, as fraught with great danger. The bowel may rupture, or a gangrenous intussusception may be thrust backward into the peritoneal cavity. Dr. Winslow then alluded to the case already reported by him in the *American Journal of the Medical Sciences*, in which he had opened the abdomen of a young woman suffering for seven days with obstruction, stercoraceous vomiting, etc., and released a constriction of the ilium, with complete and speedy recovery; also the case of Dr. Frank West, of Baltimore, who had operated on account of the adhesion of a knuckle of intestine in the femoral ring, without producing symptoms which could be recognized from the outside. A good recovery ensued here also. A third case of laparotomy had recently been done in this city, but was unsuccessful.

Four operations of pylorectomy have now been done in this country, two being in this State, but all proved fatal. Two cases of digital divulsion of the pylorus have been done in New York, both dying.

Weir, of New York, had successfully resected five and a half inches of the sigmoid flexure for carcinoma. Lange, of New York, had twice done it previously without success. In Europe it had been done thirty-two times with sixteen recoveries. According to Weir, Kocher, of Bern, removed five feet of gangrenous intestine from a patient, who was discharged well in eighteen days.

DR. J. W. CHAMBERS presented the second paper, on

REMOVAL OF ENLARGED AND SUPPURATING GLANDS OF THE NECK,

illustrating it by several cases treated at Bay View Hospital. The surgical fear of deep-seated cellulitis of the neck, he said, has lost its terrors under the influence of antiseptic surgery; and with anæsthetics and deliberate dissection with the handle of the knife and the fingers, bleeding and shock were not now prominent dangers. We were only limited in the extent to which we should attempt the removal of these glands by anatomical considerations. Even the latter were shown, by some of the cases reported, to be more elastic than many were willing to believe. In each case there was a transient rise of temperature within the first twenty-four hours, but no signs of septic absorption.

DR. BRANHAM presented the third paper from the Section, entitled

CLINICAL NOTES ON GENITO-URINARY SURGERY, FROM BAY VIEW HOSPITAL.

Among the conclusions set forth was this:

THE UNCERTAINTY IN THE DIFFERENTIAL DIAGNOSIS BETWEEN SOFT AND HARD CHANCRE

is so great in hospital patients, where the history is of little value, and where the sores have usually been irritated by caustic, filth, and continued exercise, that we should always wait for secondary symptoms. If internal medication be begun before the latter manifest themselves, it will be imperfectly carried out, because patient and physician are both in doubt as to the nature of the malady.

Among those elected to membership to-day was Dr. Amanda Taylor Norris, a graduate of the Woman's Medical College of Philadelphia, a native of Maryland and Professor of Materia Medica, Therapeutics, and Chemical Medicine in the Woman's Medical College of Baltimore. But one ballot was cast against her, which was rather remarkable for so conservative a place as Maryland, she being THE FIRST WOMAN WHO HAS APPLIED FOR MEMBERSHIP IN THE SOCIETY. It will be recalled that two colored physicians were admitted two years ago without opposition.

(To be continued.)

DR. SAUNDBY says that the styptic taste of tincture of perchloride of iron may be disguised by administering it in sweetened milk. This mixture has the further advantage of not affecting the teeth.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 26, 1886.

LAURENCE JOHNSON, M.D., VICE-PRESIDENT, IN THE CHAIR.

DR. A. B. JUDSON read a paper on

WHITE SWELLING OF THE KNEE,

in which he advocated the doctrine that it was essentially an inflammatory affection, and that an inflamed organ or tissue demanded arrest of function in the treatment, if the best results were to be obtained; that inflammatory conditions were relieved or removed by arrest of function wherever it could be secured.

The essential feature of the treatment for diseases of joints should, therefore, be fixation, and to obtain this in the cases of white swelling of the knee he had devised a very simple, inexpensive, readily adjusted, and in his hands efficient splint. This was a simple steel retentive splint, consisting of a posterior upright, occupying the greater part of the length of the thigh and leg, and four arched cross pieces, making pressure at the upper and lower part of the entire limb behind and pressure in front above and below the knee. He did not use plaster-of-Paris, and believed that better results could be obtained by simpler means.

Prolonged fixation with disuse of a joint would not produce anchylosis, provided the joint itself was free from disease. Of course, it would be followed by stiffness, but that would yield by persistent passive movements, and was entirely different from anchylosis. The anchylosis which followed joint diseases and was caused by the final products of inflammation was best prevented by reducing or removing the inflammation, and to do this most effectually arrest of function was essential.

Fixation applied to a joint would, so far as the joint was free from disease, be powerless to add to the ultimate degree of anchylosis, and, so far as the joint was diseased, it would diminish the ultimate anchylosis by arresting inflammation and preventing an excess of its products.

On these premises thorough fixation was required in the treatment of articular ostitis. Dr. Judson thought it was impossible to establish the statement that motion was required to prevent inflammation.

In the treatment of joint disease, in the lower extremities particularly, another important function must be considered, namely, that of supporting weight and concussion. Protection of the articular surfaces from pressure and concussion was very important, and to accomplish this most certainly the best method was to convert the affected limb into a pendant member, putting it into very much the same condition, in this respect, as were the upper extremities. To bring this about, the apparatus which had served him the best was Thomas' splint, which was really an ischiatic crutch, and a high sole upon the shoe worn on the foot of the healthy limb. The crutch was to be worn only when the patient was up.

When these indications had been thoroughly met, Dr. Judson believed that the patient had received the highest degree of assistance which surgery could afford, and the conclusions reached by the author of the paper were such as naturally follow from the premises and the outline of the argument given.

DR. J. F. RIDLON complimented the author of the paper because it had seemed to him that orthopædists in general had endeavored to devise apparatus which was so complicated and expensive that no one except themselves could manage it. The splint exhibited was so simple that any parent could manage the treatment effectually between the visits of the surgeon. It also was inexpensive, which was a very important item, and it could be used with some form of apparatus that acted as a crutch.

All that was required, in most cases, was fixation; only a very few cases required traction. When these patients were out of bed some form of apparatus was required to prevent motion during locomotion. Dr. Ridlon had been unable to secure fixation by means of Thomas' splint without the aid of some other apparatus.

The chief, if not the only criticism he would offer on the paper, was with reference to Dr. Judson's condemnation of plaster-of-Paris. In his hands a certain number of cases, probably of syphilitic origin, had done better in plaster-of-Paris dressings than with any form of apparatus which he had used. There was one idea, however, which should be eradicated, and that was with reference to expense; the plaster-of-Paris was an *expensive* method, for the reason that to be effectual it must be changed every two or three weeks, whereas a steel brace would last throughout the course of the disease.

With regard to elastic traction Dr. Ridlon thought more had been claimed for it than it was justly entitled to.

In gouty joints motion was desirable, and the articulations were benefited by as much exercise as they could get; but in pure chronic joint disease, where there was fungoid degeneration, motion with elastic traction did harm. Although the simple splint exhibited did not protect the joint during locomotion in all cases, he was sure that in the vast majority, if put on carefully, and the patients were treated to a little extra confinement to the bed, and, when up, wore a high shoe upon the well foot, etc., good results could be obtained and the patients would be cured. The danger of anchylosis he regarded as nothing at all; he had never known of a case of anchylosis occurring as a result of fixation. If, however, anchylosis must occur, it was a mistaken idea that it should be allowed to occur with the joint at a slight angle; the limb should be straight. He had never met with a case in which there was lengthening of the limb.

DR. JUDSON said, with regard to lengthening of the limb, that although not personally familiar with many cases, he was not surprised to find it in the case reported, because it had been observed by Howard March, who, in 1877, directed attention to its occurrence, and by Berry, who had published a series of hospital cases in which it was found that in over one-half there was more than one-half an inch of lengthening.

He did not wish to condemn plaster-of-Paris severely, as he regarded it, through the labors of Dr. Sayre, as one of the greatest boons in surgery, and he was not surprised at Dr. Ridlon's success in the use of plaster-of-Paris. His only reason for preferring a steel apparatus was that when watchfully applied the bone could be more closely approximated, and a closer grip obtained, which would give a firmer fixation than could be expected from the plaster dressing. After all, the fact remained that the skilful surgeon, understanding the principles on which treatment should be conducted, would get good results with almost any kind of mechanical apparatus.

UNFINISHED BUSINESS.

Under this head the *Comitia Minora* reported and recommended that the Society approve of a bill, pending in the Legislature, entitled "An Act to Regulate the Licensing and Registration of Physicians and Surgeons, and to Codify the Medical Laws of the State of New York." The design of the act was to remove obstacles which, from time to time, had been encountered in attempting to execute the medical laws now upon the statute-books. The recommendation was adopted.

THE VICE-PRESIDENT announced the death of

WILLIAM HARDY, M.D.,

in a few appropriate remarks.

The Chair also appointed Joseph D. Bryant, M.D., to read a memoir of Gaspar Griswold, M.D., M.R.C.S.

The Society *disapproved*, by a vote on the question, of the reading of any communication before it

ON ANY MEDICINAL PREPARATION OR ARTICLE THAT HAD BEEN PATENTED.

Remarks were made by several members, after which the Society adjourned.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Stated Meeting, April 22, 1886.

ALEX. S. HUNTER, M.D., CHAIRMAN.

DR. H. J. BOLDT read a paper on

CARDIAC NEUROSES WITH OVARIAN AND UTERINE DISEASE,

in which he referred to functional disturbances of the heart unaccompanied by organic changes. These might arise from disorders of the cardiac ganglia, or might be of reflex origin, and to the latter class of cases attention was directed. According to Dr. Boldt's observations, cardiac neuroses were present to a greater or less degree in about eight per cent. of the cases of uterine and ovarian disease, and occasionally cases were met with which presented symptoms that were referred to the heart alone; but disturbances of the uterus or its adnexa were associated, and the symptoms were removed by treatment of the pelvic organs.

The most frequent neuroses were palpitation, disturbance of rhythm or irregularity, intermittency or distinct loss of a beat, and angina pectoris.

The first was by far the most common, and might be more or less constant, or occur in paroxysms. Well-marked intermittency was very likely to be accompanied by palpitation, and if permanent, was probably indicative of organic cardiac disease; yet such cases occurred in which organic disease of the heart was absent.

With regard to angina pectoris, there existed a difference of opinion as to whether or not it could occur independently of organic disease of the heart.

Dr. Boldt then reported briefly several cases which he regarded as illustrations of cardiac neuroses associated with uterine and ovarian disease, and in which symptoms referable to the heart were relieved by treatment of the pelvic disorders. So far as the cardiac symptoms were concerned, the cases did not differ from those of like character depending on other causes.

DR. E. H. GRANDIN said that there seemed to be, at first sight, a clear connection, in Dr. Boldt's cases, between the cardiac symptoms and the disorders of the pelvic organs. He had frequently met with cases in which cardiac palpitation, intermittent pulse, etc., had been associated with uterine and ovarian disease; but he had not felt quite certain that they bore the relation to each other of effect and cause, for the reason that he had encountered the same symptoms in cases where the uterus and ovaries were healthy. Ordinarily he had found that these cardiac disturbances were associated with gastro-intestinal derangements. There were cases, however, in which cardiac symptoms, such as had been mentioned by Dr. Boldt, existed, and doubtless were due to the fact that the patients were suffering from uterine and ovarian disease. But he did not think that one was justified in making an examination of the reproductive organs, if no other evidence of disease of these organs could be obtained than that referable to the cardiac disorders. The particular point which he wished to make was that the stomach and intestines were more frequently at fault in this class of cases than either the uterus or the ovaries.

DR. BURRALL referred to a case which illustrated, in a remarkable way, reflex disturbances which were entirely relieved by free menstruation.

DR. H. C. COE said that it must be extremely difficult to distinguish between obscure cases of hysteria and cases of severe cardiac disturbance. The symptoms, palpitation, and pain referred to the cardiac region, were quite common in all disorders of the pelvic organs. He had not been very much in favor of the doctrine of reflex uterine neuroses, having never seen more than five or six cases in which cardiac disorders were associated with laceration of the cervix, etc. During a single year, at the Woman's Hospital, he met with three cases of sudden death after minor operations on the pelvic organs. In one case the diagnosis of fatty heart was made; but in another nothing could be found to account for the death. Whether or not there was any special connection between the disease of the pelvic organs, the heart, and the sudden death, he was not prepared to say.

DR. GOELET had frequently had patients object to taking ether for such operations as dilatation of the cervix, saying that they had been told that they had heart disease, and that they had been troubled very much with palpitation, pain, etc. Although these patients had suffered from cardiac disturbances, he had found that, in most of them, there was no evidence of organic disease of the heart.

DR. H. GRISWOLD referred to a case in which there were well-marked anginal symptoms associated with uterine disorder. The patient had been operated on, rather unsuccessfully, for laceration of the cervix, and subsequently suffered from repeated attacks of endometritis with distressing cardiac symptoms, which promptly disappeared on treatment of the uterine disease.

DR. BOLDT remarked, with regard to Dr. Grandin's statement, that he said an examination should be made only when no other cause for the neurosis could be found. With reference to Dr. Coe's remarks, he did not wish to convey the impression that laceration of the cervix was the cause of cardiac neuroses; that is, he did not believe that cardiac neuroses occurred with laceration of the cervix so frequently as had been indicated by some writers.

DR. F. A. BURRALL then read a paper on

ARTIFICIAL SUBSTITUTES FOR WET-NURSING IN PRIVATE PRACTICE,

in which he first referred to the best method of feeding infants, namely, nursing by the mother. The next test, according to most writers, was wet-nursing, although strong objections had been made to rearing infants by the aid of a wet-nurse; and they were such as to make him believe that this plan did *not always* stand second best to nursing by the mother. Dr. Burrall also discussed the question of the propriety of allowing an infant to be nursed by a syphilitic woman. Although it was doubtless true that wet-nursing was to be preferred to artificial food, yet extreme care must be exercised with regard to the choice of a nurse. The moral objections to wet-nursing were usually overlooked, but Dr. Burrall regarded them as very important. By many it was believed that the moral and intellectual qualities of the nurse were transmitted to the infant. Again, the moral effect upon the mother produced by nursing her own child ought not to be disregarded.

With regard to artificial food, Dr. Burrall believed that the results obtained by its use were very much influenced by the surroundings and the hygienic care of the children; that is, better results would be secured in well-regulated and well-to-do families, than among families which did not offer to their children the advantages attending such care.

Dr. Burrall then referred briefly to several of the artificial foods in common use, and also to several formulæ that had been given for preparing cow's milk to make it best adapted to feeding infants.

He regarded it as important to indulge in as little night-feeding as possible, and believed that night-feeding should be discontinued as soon as it could be.

In general, the practice was to feed infants too frequently and too much, rather than at too long intervals and too little.

No formula could be used exclusively for the preparation of food best adapted to each child. But, with our

present knowledge, wet-nursing could usually be safely avoided.

Dr. Dawbarn gave something of the comparative analyses of cow's and human milk. He thought that if starchy material was to be added to cow's milk probably Dr. Jacobi's formula for the preparation of barley-water was the best, but he did not use any starchy substance in the management of young infants.

He spoke of the artificial foods, and also of the faults belonging to condensed milk diluted, such as excess of sugar, etc. He would do away with the nursing-bottle altogether, and feed with the spoon. He favored the free use of cool, not cold, water in the intervals between feeding, in cases of summer diarrhœa.

Dr. Dessau was opposed to all foods as substitutes for wet-nursing. He approved of the use of condensed milk, such as is served at private residences in this city (not that put up in tin cans), instead of cow's milk, because in the process of its dilution it could be always made of a uniform strength, which could be changed as the age of the infant advanced. His usual mode of preparing it for food was to add a tablespoonful to a nursing-bottleful of tepid water, with a pinch of salt. It was less likely to undergo chemical changes in warm weather than cow's milk, and did not require boiling nor the addition of an alkali. To a certain extent the disturbing influence of casein was avoided by using condensed milk, because in the process of its preparation the casein was acted upon in such a manner as to prevent coagulation thereafter by the action of the fluids of the stomach. It had served him better than any food he had used, and was the only preparation which he would recommend as a substitute for wet-nursing. He had used it largely at the New York Foundling Asylum, and with satisfactory results.

Dr. H. D. Chapin agreed with what had been said concerning artificial foods. They could be easily imitated. Casein, the most disturbing substance, could be attenuated by boiling, or digested by peptonizing the milk with the addition of an alkali; but it was not yet decided whether or not this method was a good one, because of the large quantity of alkali required. Kumyss had, by some, been added, for the purpose of disposing of the casein.

Dr. Winters said, with regard to wet-nursing, that anything should be welcomed which would obviate the necessity of the child having a foster-mother. He had not, for a number of years, found it necessary to employ wet-nurses. One reason why artificial feeding was so unpopular was because an attempt was made to substitute something unnatural for mother's milk, namely, artificial foods. There was no artificial food which was natural to the child, all contained more or less of starch; and if that was certainly transformed so that it could be digested, the nutritive power of the food was destroyed by the process, and the consequence was the production of an inferior article. No artificial food would sufficiently nourish a child without the addition of cow's milk.

Why was not cow's milk used more, and, when used, why did it fail so frequently? In the first place, sufficient care was not exercised in getting the milk. Secondly, nearly all bottle-fed children were over-fed; excessive feeding, therefore, was a cause of failure. Third, too rapid feeding was accountable for failure in many cases. The child should be fed with the same care and time when the bottle was used as when it was nursed by its mother.

Dr. George B. Fowler advocated the use of mother's milk first, cow's milk second, and then spoke of the different methods that had been resorted to for making it as near like mother's milk as possible. He thought it quite possible that many times too much alkali was added in the method by pancreatizing and the use of an alkali, as only a distinct alkaline reaction was required. He had found that the addition of a small quantity of pepsin to cow's milk, and then heating it, gave a clot which could be easily broken up, and when crushed it did not reclot in the stomach, and therefore had answered an excellent purpose. He believed that the milk obtained now in this city, thanks to the vigilance of the Board of Health, was equal to that which could be obtained in the country.

Dr. B. F. Dawson said that it was absolutely easy to bring a child up without the aid of mother's milk and without wet-nursing. The frequency, the quantity, and the rapidity with which children were fed were of as much importance as the quality of the food. He believed that the entire evil in feeding children consisted in feeding them too much at a time, too often, and too rapidly.

Cow's milk was all that was necessary, with something added to prevent the coagulation of the casein; if anything more was to be added it should not be water, but fat—for example, a piece of pure fresh butter as large as a hazel-nut at each meal. He said that if an infant was only looked upon as an animal that could take care of itself if let alone, all those who had to do with the rearing of children would get along much better than they did. He regarded it as important that the child should have plenty of water between meals.

A child should not be fed in the night, if possible to avoid it. The child should not be allowed to sleep at the breast. Make the interval between meals as long as possible both day and night—three, four, six, or even twelve hours. Never give an infant food until certain that it is hungry. His rule was to have the child fed at seven in the evening, once during the night—at two o'clock—and the next time in the morning, at six o'clock or thereabouts.

Dr. Winters said that the healthiest infants he had ever seen had not been fed during the night. In early infancy children occasionally might be fed at night, but in the majority of cases when the child awakens, and it is supposed that it is hungry, the application of a dry napkin or giving it a little water would be sufficient. After the first two months, as a rule, children did not require to be fed between ten o'clock in the evening and six or seven in the morning.

As to day-feeding, he should be governed by the instinct of the child, taking care that crying was not mistaken for hunger. He directed that the child should never be awakened for feeding, let the time be four, six, or more hours. Usually children were fed every two or three hours, and feeding every two hours was very likely to bring on indigestion. *On an average*, once in three hours during the day, and during the night at as long intervals as possible, and indigestion will rarely occur. A child should never be allowed to sleep while being nursed by its mother.

Dr. Burrall, in closing the discussion, said it was doubtless true that barley-water was constipating to some children and laxative to others.

The Section then adjourned, to meet on the fourth Thursday in October.

SECTION IN SURGERY.

Stated Meeting, April 12, 1886.

Stephen Smith, M.D., Chairman.

The Chairman reported, for discussion, a method of treatment of

FISTULA IN ANO,

in which he gave the details of an operation as performed successfully in several cases. He regarded the operation as applicable to all varieties of fistula in ano, and the average time of cure had, in his cases, been ten days, by a single operation, which consisted in laying the fistula open completely in all directions, completely excising the lining membrane, and then bringing the surfaces into thorough coaptation. He prepared his patients by

giving an ounce of castor-oil for two successive days before the operation, omitting it on the last day, on which an opiate was given at bedtime. The diet consisted of milk. The operation was performed with technical antiseptic details.

Shave the anal region and irrigate it, and also all the folds of the rectum, with the bichloride solution. Put a clean sponge, having a string attached to it, into the rectum. Place the patient upon the side corresponding to the external opening of the fistula. Incise the fistula in the usual manner, dissect away the pyogenic membrane throughout the tract, and from whatever pockets may have formed. Cut away the ragged margins and leave a clean, healthy surface for approximation and union. Control the hemorrhage completely before closing the wound. Secure perfect apposition of the margins of the wound and the deeper surfaces, with superficial and deep sutures. Introduce a drainage-tube, which is usually removed on the day following the operation. Use an opium suppository. Confine the patient upon the back, with the limbs straight. Keep the bowels quiet for five or six days. Restrict the diet to milk.

Dr. A. Jacobi asked, What does the most modern surgery think of the contra-indication to operating for fistula in ano in cases of advanced or incipient phthisis? The old view was that the existence of phthisis was a contra-indication to operating upon fistula in ano; or, in other words, that to operate upon fistula in ano in phthisical patients was not justifiable. He regarded it as an important question, and would be pleased to hear of it in the light of modern surgery.

The Chairman said, that if it were left to him to answer, he would say in reply to Dr. Jacobi's question, that surgeons in our times were inclining very much to operate in tuberculous cases. Wherever they could remove tuberculous conditions, as, for instance, in a joint, by excision and amputation, they did not hesitate to resort to operative procedure. So far as his observations went he did not believe that these fistulæ were, as they were at one time regarded, drains through which the system obtained relief by the exit of deleterious material; and he believed that they were drains only in the sense of affording an escape to discharge which weakens the patient. He had never seen any bad results follow surgical operations under these circumstances, but he had seen immediate good results follow the operation.

He referred to one case in which the patient had had repeated hemorrhages, and it was said by competent physicians that there were large cavities in the lungs. This patient had caries of the wrist-joint, which was the chief source of complaint. Amputation of the wrist was performed, and the patient recovered very promptly, and had since remained in an apparently healthy condition.

Dr. Jacobi then asked if he was to understand that surgical opinion had changed somewhat with regard to the operation for fistula in ano in cases of consumption?

The Chairman said that, so far as his knowledge of the opinion of surgeons went, it was one of the operations which surgeons would regard as justifiable in cases of phthisis.

Dr. Jacobi said he could see that there was a difference between the relation of fistula in ano to pulmonary consumption, and the relation of tuberculous bone to pulmonary consumption. Tuberculous bone might be not only a constant cause of new infection, but also be the original seat of the disease, which, if removed, would facilitate recovery. It was probably not so with regard to fistula in ano. He referred to the subject especially for the reason that it had been taught, and we had been led to believe, that fistula in ano occurring in phthisical subjects was not to be interfered with surgically. It appeared, however, from what the Chairman had said, that he did not hesitate to operate in such cases.

Dr. J. C. Peters remarked that it was worthy of note that in the older operations it was customary simply to lay the fistula open, whereas the operation described by Dr. Smith contemplated removing the lining membrane of the sac, in the expectation of saving the patient from the dangers which attended the old method of procedure.

The Chairman said that unless it could be proved that fistula in ano was a necessary drain, and that its closure would precipitate a tuberculous condition of the lungs, certainly modern surgical methods rendered it wise to rid the patient of such a source of exhaustion.

Dr. Robert T. Morris then reported a case of

AMPUTATION OF THE LEG OF A MAN AGED OVER EIGHTY-THREE YEARS.

He regarded it as one of the test-cases in antiseptic surgery. Gangrene occurred in the toes and foot as a result of senile changes. The arteries upon the right side of the body were tortuous and exceedingly hard to the touch; on the left side they were soft and apparently normal. The operation was performed with technical antiseptic details. The first dressing remained fifteen days, and when removed union was complete. The patient had since remained in good condition.

Dr. Morris also reported a case of

INJURY OF THE VERTEBRÆ AND SPINAL CORD, WITH AN ACCOUNT OF AN EXPLORATORY OPERATION.

The patient was twenty-seven years of age, who received a severe injury by falling upon the head, attended by almost immediate development of paraplegia below the neck. Diagnosis of fracture of the body of the sixth cervical vertebra, with crushing of the cord, was made. The patient retained the full enjoyment of his intellectual faculties. After giving more extended details of the history of the case and the various clinical phenomena, Dr. Morris gave an account of the details of the operation which he made, with the idea of exsecting the damaged portion of the cord and bringing the divided ends together and fastening them with sutures. The necessary incisions were made under full antiseptic precautions, the spinous processes and the laminæ of the sixth and seventh cervical vertebræ were removed. In this way the cord was exposed, and it was found that its membranes had become united in a firm, dense mass; that the spinal cord itself was very much flattened, not thicker than a sheet of writing-paper; that a few distinct glistening fibres of apparently normal nerve-tissue could be seen passing through this injured part to the parts below, and that the cord below was very much atrophied. The condition of things was such as to preclude any further operative interference, and the wound was closed with full antiseptic details, united by primary union, and the patient was in no way damaged by the procedure. Dr. Morris then gave an account of the symptoms which have developed in the course of the case subsequently.

Dr. C. M. Jones reported a case of fracture of the twelfth dorsal vertebra, and had in his possession the specimen, which illustrated fracture of the laminæ, with pressure upon the cord. The conditions were such as to suggest that if the bone could have been removed by operation, possibly the paralysis might have been relieved. At the time of the occurrence of the injury he suggested such an operation, but it was not accepted by the consultants.

The Chairman had operated in one case of depression of a spinous process in which he found, after removal of the laminæ of one of the vertebræ, extensive extravasation of blood within the spinal canal. The operation gave no relief to the patient, and the case terminated in the usual manner, without recovery of the use of the lower extremities. He thought that operations on the cord for injuries had almost entirely been discarded by surgeons. But the operation contemplated by Dr. Morris was a new field altogether.

Dr. Morris said that in looking up the literature of the subject he had found a large number of cases reported, and all unsuccessful; but he had thought that

the present advantages of obtaining primary union in nerve-tissue and the other soft parts, gave new encouragement to attempt to afford relief by surgical procedure in this class of cases.

Dr. Jacobi spoke of a case on which he operated, some twenty-five or twenty-six years ago, that of a little boy, who received a gunshot wound which was followed by paraplegia. On examination there was a small wound over the second lumbar vertebra. He removed a portion of the body of the vertebra, and found the dura mater very much thickened and very much paler than he had expected to find it; but there was a good deal of organized tissue in that locality, and there it was that he found the bullet, between the bone and the dura mater. He removed the bullet, and also opened the dura mater in order to see the cord, which was found to be flattened and considerably atrophied. The wound healed kindly, but the child died a number of months afterward, in the usual way, and without any improvement following the operation.

Dr. J. C. Peters referred to the oldest and first work on surgery which he ever read, a book written by a French surgeon, who said that almost every part of the body had been invaded by surgical operation, and the author also stated further that, *unfortunately*, the connections of the head with the trunk were such that it could not be removed with the slightest chance of saving the patient's life. The word *unfortunately* Dr. Peters regarded as being very suggestive in connection with the statement made by the author.

The Chairman said that the first case reported by Dr. Morris, that of amputation of the leg, illustrated certainly an advantage which surgeons now possessed, of healing almost any kind of wound. It also illustrated how surgeons now-a-days could perform operations which were essentially curative and not depressing, even under the most unfavorable circumstances, and he believed that some surgical procedures were even more remedial than mercury in syphilis in a large number of cases of chronic diseases.

The Section then adjourned.

The Treatment of Hydrocele.—Dr. T. M. McIntosh, of Thomasville, Ga., writes, in regard to the communication of Dr. Keyes in The Medical Record of February 20th, upon the treatment of hydrocele, that he has in several cases used a somewhat similar, but more simple, method. It consists in the injection of iodine or carbolic acid through a hypodermic needle without previous evacuation of the sac. There are certain cases of encysted hydrocele in which there would be some danger of wounding the testis by the point of the trochar, and other cases in which, owing to thinness of the walls of the sac, and their consequent collapse after the removal of the fluid, great difficulty would be experienced in throwing the fluid into the sac and not into the surrounding tissues. The mode of procedure is to insert the ordinary hypodermic needle, withdrawing just enough fluid to establish the diagnosis; then the barrel of the syringe is disengaged from the needle, filled with the desired quantity of carbolic acid or other injecting fluids, then reattached, when the piston is driven down. It is claimed that there is no pain beyond that caused by the puncture of the needle, and no disability, as the patients are able at once to leave the office and attend to their ordinary duties. It is also, it is claimed, a most effectual mode of treatment. Dr. McIntosh states that the method is not original with him, but that he read about it in a short paragraph in some medical journal about five years ago. The writer had used it for a number of years, and during the war had operated on many cases, the reaction in not a single instance being sufficiently severe to necessitate relief from military duty. In every case a complete cure had been obtained. The material used by the originator of the method was tincture of iodine, from 20 to 40 drops being used for each injection.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE GULSTONIAN LECTURES ON SPASM IN CHRONIC NERVE DISEASE—A SANITARY SCANDAL.

London, April 13, 1886.

Dr. Seymour Sharkey's recent Gulstonian Lectures on Spasm in Chronic Nerve Disease contained some pregnant suggestions. Referring to the knee-jerk and allied contractions, Dr. Hughlings Jackson, he said, had formulated the opinion that they are increased in disease which interrupts the continuity of the pyramidal tract, because the suppression of the functions of the pyramidal tract allows increased activity of the spinal centres—the latter being "let go." This explanation was accepted by Dr. Sharkey, and he claimed that partial or complete suppression of nerve-impulses passing from the cerebral motor centres down the pyramidal tract might occur under a considerable variety of circumstances. They might even occur without any tangible lesion being present, for contractures had been observed in typhoid, typhus, and relapsing fevers.

Dr. Sharkey narrated in detail some interesting cases in which tremors, paralysis, and muscular contraction had been produced by pressure on the pyramidal tracts at various points in their course. If the motor tracts of the two sides of the body were affected simultaneously, or soon after one another, the disease was likely to be situated between the basal ganglia above and the medulla below, and was in all probability a tumor.

Rigid contractions and tetanic seizures had been held to be characteristic of cerebellar disease. But as they occurred in disease of other parts of the brain, this could not be so. When occurring in cerebellar disease, they were really due, said Dr. Sharkey, to pressure on the motor-paths, and not to the cerebellar disease *per se*. Dr. Hughlings Jackson, he said, had remarked that in the case of extensive rigidity and tetanus-like seizures occurring in cerebellar tumor, the tumor had been (in his experience) in the middle lobe, and large. Dr. Sharkey said he would put the case thus: "A tumor of the cerebellum does not produce contractures and tetanic seizures, unless it be in such a position and of such a size as to produce pressure on the pons Varolii or medulla oblongata." Dr. Sharkey furthermore said: "I do not think we are justified in considering that disease of it [the cerebellum] produces spasmodic contraction of muscles, except indirectly by pressure upon underlying structures."

Dr. Sharkey regards contractures of cerebral origin as due to injury to the intra-cranial portion of the pyramidal tract, and he pointed out that the results are similar whether the lesion is situated in the motor area of the cortex, in the central ganglia, in the crus, pons, or medulla, provided that the function of the fibres of the pyramidal tract be interrupted. Congenital defects or portions of the central nervous system were, he remarked, as capable as destructive diseases of producing paralysis of limbs accompanied by spasm. Some clinical and post-mortem records were quoted in support of this view.

The lecturer then referred to the various forms of mobile spasm. He admitted that these could not be attributed to any lesion constant either in its nature or its position, but suggested that they result from a mixture, in varying proportions, of paralysis, spasm, and irritation, and that their development depends upon lesions which interfere with the perfect functions of the motor centres and nerves but do not completely interrupt them.

Dr. Sharkey then reiterated a statement which he had made in commencing the course, viz., that "our present knowledge of anatomy, physiology, and pathology does not justify us in concluding that there is any efferent motor connection between the brain and spinal cord,

except the pyramidal tract, direct and crossed, disease of which gives rise to chronic muscular spasm." In making this statement he had wished, he said, to exclude from consideration the cerebellum and central ganglia. Any rigidity or spasmodic contraction of muscles arising in connection with diseases of either the cerebellum or the central ganglia really depended upon involvement of the pyramidal tract, which passed close by them. He had brought forward evidence in support of this view, so far as the cerebellum was concerned. He would now give some evidence of the statement so far as it related to the central ganglia. Dr. Sharkey accordingly related a case in which disease so severe as almost totally to obliterate the corpus striatum, produced hemiplegia, but the latter passed off without leaving rigidity, paralysis, or any other symptom behind. The internal capsule had not been invaded by the lesion.

The lecturer then proceeded to speak of spasm in connection with chronic spinal disease. He observed that the continuous degeneration of the lateral column through the whole length of the spinal cord in cerebral lesions shows that the fibres are not interrupted by entering ganglionic centres, but pass straight to their several destinations in the anterior cornua. It would, he said, be readily understood that if disease destroy them at any level in the spinal cord, degeneration will occur in them below, and produce symptoms of hyper-physiological activity of the spinal centres with which they are connected, similar to those occurring when the disease is intra-cranial. In the latter case, however, all the spinal centres which are under voluntary control are affected, but in the former only a certain number, varying according to the situation of the spinal lesion, whether high up or low down in the cord. Another difference was that in cerebral disease the resulting contracture is, as a rule, unilateral, but bilateral when caused by spinal lesions. The reason of this was that the pyramidal tracts in the spinal cord are so close together as usually to be both involved, whereas, in that portion of the brain where they are most liable to be interrupted by disease, they lie at some distance from each other. The symptoms of disease of the lateral columns of the cord are the same, said Dr. Sharkey, whether it follow cerebral or spinal lesions. The affections of these columns differed slightly according as they are primary or secondary. Disease of the lateral columns might be combined with that of some other tract of fibres, and a combination of symptoms result. Moreover, although pressure on the pyramidal fibres interrupts their functional activity, the symptoms were very different, according to the manner in which the pressure be applied, whether from without or within the cord. A tumor growing in the spinal canal outside the cord might produce few symptoms until it pressed the cord against the walls of the canal, but after this had occurred the course of the disease was rapid. On the other hand, a tumor arising within the spinal cord disturbed its functions even from the commencement, but as the nerve-substance appeared to be elastic, and to allow a good deal of stretching, a tumor might go on growing for a long time before producing striking phenomena either by pushing the cord against the bony walls of the spinal canal or by exhausting the elasticity of the membranes enveloping it. Dr. Sharkey described and explained these various points in detail, and illustrated them by narrating cases.

I referred on a former occasion to the continued existence of a large dust-sifting yard adjoining the filtering beds of a water company at Battersea, as a sanitary scandal. Last year it was proposed to compel the owners of the yard to sell it to the water company; but they opposed this before Parliament, and as this clause had been inserted by the Parliamentary Committee, the Water Company's Bill was thrown out last year in consequence of this opposition. The bill has now again come before Parliament, and it appears that the Water Company and the Railway Company owning the dust yard, have been able to come to an agreement as to the matter, whereby the Railway Company (who are unwilling to part with the ground) undertake to put a stop to the dust-sifting. Meanwhile the nuisance has been going on, although the Local Government Board has issued a report condemning the continued existence of the yard. Public opinion has also not been idle, but in spite of all, we are only now on the verge of settling what would appear—to one unversed in sanitary law—to be a very simple question, viz., the removal of a nuisance which is also a danger to health. I have a very strong suspicion that, despite the present virtuous sanitary stand of the Local Government Board, the nuisance would be as far from being abated as ever, were it not for public and professional opinion.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 18, to April 24, 1886.

TAYLOR, M. K., Major and Surgeon. Granted one month's leave of absence, on surgeon's certificate of disability, with permission to leave the limits of the Department. S. O. 39, Department of the Missouri, April 16, 1886.

GRAY, WILLIAM W., Captain and Assistant Surgeon. Ordered to Fort Maginnis, M. T. S. O. 33, Department of Dakota, April 16, 1886.

WOODRUFF, EZRA, Captain and Assistant Surgeon. Ordered to Fort Missoula, M. T. S. O. 33, Department of Dakota, April 16, 1886.

ROBERTSON, REUBEN L., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Snelling, Minn. S. O. 33, Department of Dakota, April 16, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 24, 1886.

LOVERING, P. A., Passed Assistant Surgeon. Ordered to Navy Yard, New York.

BIDDLE, CLEMENT, Passed Assistant Surgeon. Detached from Monocacy. Ordered home and wait orders.

AMES, H. E., Passed Assistant Surgeon. Detached from Navy Yard, New York, and ordered to Monocacy.

CRAWFORD, M. H., Passed Assistant Surgeon. Ordered to Naval Hospital at Washington.

Medical Director W. T. HORD, U.S.N., and Medical Inspector J. C. SPEAR, U.S.N., delegates to the American Medical Association, to be held at St. Louis on May 5, 1886.

A LONG CORD, A KNOTTED CORD, AND A LARGE INFANT.—Dr. J. T. Faucett, of Idaville, Tenn., writes to the *Mississippi Valley Medical Monthly*: "I was called to Mrs. F——, February 5th. In about an hour after my arrival she gave birth to a twelve-pound female child. The umbilical cord measured four feet seven inches, and had two perfect knots. Doubtless you have seen longer cords with more knots in them, but this is my longest; and I doubt not but that you have delivered larger children, but this is my largest. In looking over the authorities upon the subject I find that Cazeaux, Leishman, Tyler, Smith, Lusk, and others, give the average length of the cord at from twenty to twenty-four inches. At the same time they all say that instances are on record where the length exceeded the one I report, being five, six, even seven feet in length. The weight of the child, while not sufficient perhaps to excite the wonder of obstetricians, is still quite enough to arouse the astonishment and admiration of a neighborhood."

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 24, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
April 24, 1886.....	1	7	46	7	25	75	1	0
Deaths.								
April 24, 1886.....	0	4	12	6	4	33	0	0

HYSTERICAL SINGULTUS.—There is a form of hysteria peculiar to the inhabitants of Archangel, in which one of the most prominent symptoms is hiccough (*Russkaya Meditsina*, March 9, 1886). Women are chiefly affected, though the men are not all exempt. The attack begins after some mental excitement, or without such cause, by a sudden intermittent spasm of the diaphragm. The patient cries out, the muscles of the upper extremities contract and relax, the eyes roll, and consciousness seems to be lost. The hiccough continues throughout the attack, which seldom lasts more than half an hour.

SUICIDE BY BUTTING THE HEAD AGAINST A STONE WALL.—Mr. William Allan reports, in the *Dublin Journal of Medical Science* for March, 1886, a case of a prisoner who, on being informed that his wife had just been arrested, started off at full speed toward a wall some fifty feet away, and dashed the vertex of his head against it. So great was the concussion that the body rebounded three feet from the wall, and the man dropped dead without a struggle. The case was of interest from a medico-legal point of view, as if the man had not been seen by witnesses to commit suicide it might reasonably have been supposed that he had been struck by a keeper, or a fellow-convict.

CHLORAL AS A VESICANT.—Hydrate of chloral has, according to the London *Medical Record*, been successfully employed instead of cantharides for blisters. For this purpose powdered chloral is sprinkled on previously slightly warmed adhesive plaster. Vesicles are raised by it in about ten minutes. The advantages of this blister over other kinds are rapid and perfectly painless action, and absence of any of the troublesome effects sometimes caused by cantharides.

ETHER AND OPIUM IN SMALL-POX.—During a recent meeting of the Medical Society of the Paris Hospitals, MM. Dreyfus-Brissac and Balzer mentioned that they had tried M. du Castel's ether-and-opium method of treating small-pox for a considerable time, and had convinced themselves of its efficacy. It consists in subcutaneous injections of ether, a daily dose of from fifteen to twenty centigrammes of opium being administered by the mouth. In severe and confluent cases the papules become abortive, suppuration is diminished, and the general improvement is rapid. M. Balzer prefers administering the ether as well as the opium by the mouth, but M. du Castel considers this less efficacious than the hypodermic method.—*The Lancet.*

EARLY PUBERTY.—A curious case of early puberty was shown by Mr. Bruce Clarke at a recent meeting of the London Pathological Society (*British Medical Journal*). The child was only three years and eight months old, but was three feet eight and a half inches high and weighed sixty-two pounds. There was some down on his cheek, and though there was no hair on the chest or in the armpits, he was as hairy as a man about the pubes and in the perinæum. His penis was as large as a man's, and was noticed to be erect every morning, though the testicles were rather smaller than those of an adult. The pomum Adami was well-developed, and his voice was cracked like that of a boy losing his "childish treble." The development of his brain, however, had not kept pace with the growth of his body, and his mental state was about that of a child of his years. The girth of the head round the occipital and frontal protuberances was twenty-one inches, which is certainly not very small for his bulk. It is interesting to note that, in spite of the great development of his sexual organs, he has never given any evidence of sexual desire, and that no seminal emissions are known to have occurred. The boy was the third child in a family of five, and he was bigger than the eldest child, who was over seven years old. He was suckled for nine months. At about one year of age he began to grow rapidly and to eat voraciously, so that nothing seemed to satisfy him. Hair began to grow on the pubes, and, before he was a year and a half old, he was as hairy as a man. At about that time this very rapid rate of growth ceased, and, since then, his mother thinks he has only grown with ordinary rapidity. A few cases are on record where puberty developed between the ages of two and three years, but Mr. Clarke stated that he had been unable to find any other case recorded where it developed before eighteen months of age.

THE LANDLORDS WHO BLOOM IN THE SPRING.—

The doctor who hunts in the spring, tra la,
For a bright pleasant office up town,
Finds it rather a difficult thing, tra la,
To get a landlord on a string, tra la,
And make his rent figure come down.
And that's what I mean when I say or I sing,
To the devil with landlords who bloom in the spring.
Tra la, tra la, tra la, tra la,
To the devil with landlords in spring.

PERVERSION OF SEXUAL SENSE IN AN EPILEPTIC.—Professor P. J. Kovalevsky reports the case of an epileptic peasant suffering from religious ecstasy and aversion to women, the patient invariably having sexual connections only with animals (at first with hens and ducks, then with cows and mares).

THE OPERATING ROOM OF A VIENNA OPHTHALMOLOGIST.—Dr. G. H. Claiborne, Jr., writing from Vienna to the *Virginia Medical Monthly*, describes the operating room of Professor Hirschberg. "His operating room is a model of scientific care and accuracy. The floor and tables are of marble; the walls are painted with an oily substance which allows of their being washed with soap and water. Glass and porcelain are the materials of which the basins for instruments and disinfecting fluids are composed. The hands of all parties concerned in the operations are washed with soap and water and bathed with a sublimate solution ($\frac{1}{1000}$). The instruments for operations on the ball lie in absolute alcohol; those for muscle and lid operations in a three per cent. carbolic acid solution. Cocaine and atropine are dissolved in $\frac{1}{5000}$ sublimate solutions, and a separate new bottle is used for each case. Professor Hirschberg disinfects the conjunctiva by wiping it carefully with antiseptic gauze wet with a $\frac{1}{5000}$ sublimate solution, and instils one or two pipettefuls of the same solution over the wounds after the operations are finished. He never operates out of this room. Each patient has his own box of solutions, pencils, bandages, etc."

RUSSIAN PHYSICIANS AND THEIR GOVERNMENT.—In Russia medical students are to a very large extent supported and educated by the government, but a pledge is exacted of them to serve in any capacity that may be required, for a certain number of years after qualification. This pledge is felt to be a burden, and a number of medical men, at present under the obligation of serving the government, have petitioned to be absolved from it.

THE INEQUALITY OF THE UPPER EXTREMITIES AND THE CAUSE OF LEFT-HANDEDNESS.—Dr. Charles A. Bacon, of this city, writes: "Yours of the 19th inst. received. The extract from the *British Medical Journal*, given on pages 262–63 of THE MEDICAL RECORD for February 27th, recalled to my mind Hyrtl's views on that subject, a translation of which I append. § LXXIV. 'Inequality of the two Upper Extremities. The two upper extremities are very seldom of equal length. There is a difference of two to three lines in favor of the right. Laurent Vitry and Noble found the right clavicle and humerus four lines longer than the left. . . . Moreover, the strength, which means the muscular development, of the two is very seldom in exact correspondence. An original dissimilarity in the mass of muscular tissue in favor of the right upper extremity, and not its more intense use, gives to it its greater importance. We use the right upper extremity more than the left, because it is stronger; it is not stronger because more used. . . . The mass of muscular tissue on the right side is greater than that of the left in the proportion of 1 to 0.929 . . . a difference of more than seven per cent. That the predominating use of the right hand is based on this numerical proportion, is best appreciated on observation of left-handed persons. Such a person's left upper extremity is by natural construction stronger, and, for this reason, he makes use of it from babyhood in spite of correction and punishment, and although all tools and implements are so constructed as to favor the convenient use of the right hand. . . . § LXXV. Anatomical Cause of Left-Handedness. The stronger development of the right upper extremity, and its consequent greater availibility for use, depend upon purely anatomical considerations, just as does left-handedness. They lie in the results of the place of origin of the arterial branches of the arch of the aorta. The right subclavian is given off nearer the heart than the left. The power of the heart's systole will have a greater influence on it than on the left. The right subclavian, as well as all its branches, will necessarily have a greater capacity than the left, because the blood in it circulates under a greater pressure. More blood in it means so much more nutritive material, and also so much more tissue change, and stronger development of all belonging to the upper extremity. That this stronger development should manifest itself in the muscles is to be expected, since the bulk of the extremities is composed of muscle. Our attention is here claimed by an anomaly in the origin of the great blood-vessels, in accordance with which the right subclavian arises behind the left. Nor is it so very rare; I put it at two per cent. This proportion corresponds with the experience of many years in the dissecting-rooms of Vienna, and approximately with Malgaigne's observations on the frequency of left-handedness. If the right subclavian takes its origin behind the left, then, as regards the pressure under which the blood circulates in the two subclavian arteries, we find the opposite from what must occur when the origin is normal. In blood-supply the left extremity has the preference. Consequently it will be stronger and in use preferred to the right. Dr. Oehl, of Pavia, first communicated to me the cases of two left-handed men, in whom the anatomical examination demonstrated the misplacement of the origin of the right subclavian behind the left. Two other recently observed cases establish beyond doubt the causal and necessary relation of anomalies in the blood-vessels to left-handedness. A body with complete transposition of the viscera came into our hands in the anatomical department. The left upper extremity was not noticeably stronger than the right (just as the right is not always perceptibly the stronger); but callosities on the left hand showed that the man—a carpenter—had been accustomed to use his plane in that hand. Almost at the same time I learned that a man—by trade a locksmith—was under treatment in Professor Oppolzer's clinic. On being questioned he asserted, as I expected he would, that from babyhood he used his left hand for everything, until in his fifteenth year his master compelled him to use the right; still, that even now, when he wants to do his best, his left hand is more serviceable than his right. The anatomical cause of left-handedness is consequently no longer a riddle.' The above is a translation of passages occurring on pages 304, 305, 306 of vol. ii. of Hyrtl's 'Handbook of Topographical Anatomy,' sixth edition, published at Vienna by William Braumueller, and is substantially what I heard Professor Hyrtl state in one of his lectures. Being not quite certain as to the solution of 'the riddle,' I spoke with him about it afterward, and I believe it would be correct to thus formulate that great anatomist's answer: Any original abnormal distribution or arrangement of the great arteries causing greater blood-pressure, beginning during fœtal life, in the left than in the right subclavian, is competent to cause increased calibre of the left subclavian, a more copious blood-supply to the left arm, a consequent superiority in its muscular development and left-handedness; and such is always the cause of original left-handedness."

NEWSPAPER ADVERTISEMENTS.—A correspondent, "L. J. B.," writes: "It is stated that when a clergyman raised his prayer-book to throw it at the liar in his congregation every one present dodged their heads. Now, as one of the dodgers, I wish to question a statement made in the recent editorial on 'Newspaper Advertisements.' I cannot vouch for the state of things in New York, but in smaller towns everyone assumes the mantle of reporter, and considers it a privilege to report current events to the newspaper. Thus a man's neighbors—friends or enemies, for that matter—are constantly striving to be the first to announce such events at the paper offices, particularly if something extraordinary to them. Thus, if Dr. so and so performs an operation, not wonderful to himself or the profession, but wonderful to the public, it soon reaches the papers without the knowledge or intent of the operator." [Our correspondent further asks us why we have singled out a certain town of which to make an example. To which we answer that we have not singled out any town or man, but during the past years have made such criticisms as we deemed needful and right, no matter what was the locality. A small proportion of newspaper advertising is inadvertent and accidental, and this proportion is very much smaller than our correspondent appears to think.—ED.]

A CURIOUS DEFENCE.—Dr. Peyrol, head surgeon at the Hôtel Dieu, was called upon to extract a bullet from a young lady who had accidentally shot herself, and made a charge of eight hundred francs for the operation. The bill was disputed, and the case was brought before the Paris Civil Tribunal. Here the defence was set up that the plaintiff had stated erroneously that the bullet was lodged in the right thigh. But the tribunal very justly overruled the plea, saying that it mattered very little whether the bullet was on the right or left side, so long as the patient's sufferings had been relieved, and judgment was accordingly given for the plaintiff.

A TRUSS WITH A GLYCERINE PAD.—A truss is manufactured in England, which has a pad made of india-rubber and filled with glycerine. It has been found that the glycerine does not evaporate or leak through the rubber, and the pad always remains soft and comfortable. The latter has sufficient resistance to overcome the ordinary forms of hernia, and, from its peculiar construction, adapts itself well to the surface, and completely closes the external ring without enlarging it.

THE DIET IN DIABETES.—*Articles permitted:* Almonds, plain, in rusks and in biscuits, bread toasted or stale maccaroni, bacon, butter, cheese, eggs, fat and oils, beef-tea and soups, beef, mutton, fish, game, and poultry, cabbage, lettuce, pickles, and spinach, custards without sugar, cream, jellies unsweetened, nuts; coffee, cocoa, sherry. *Articles forbidden:* Peas, beans, lentils, pota-

toes, sweet potatoes, celery, carrots, beets, radishes, mustard, oysters, arrow-root, buckwheat, sago, tapioca, and puddings generally, apples, bananas, and fruits generally, including raisins; milk, sugar, chocolate, ale, sweet wines. —*Journal of Reconstructives.*

THE DIGESTIBILITY OF VARIOUS KINDS OF FOODS ACCORDING TO VANDERBECK. *Meats.*—Easy to digest: Mutton, venison, hare, sweetbread, chicken, turkey, partridge, pheasant, grouse, beef. Hard to digest: Pork, veal, goose, liver, heart, brain, lamb, duck, salt meat, sausage. *Fish.*—Easy: Turbot, haddock, flounder, sole, oysters, trout, pike. Hard: Mackerel, eels, salmon. herring, salt fish, lobster, crabs, mussels, cod. *Vegetables.* —Easy: Asparagus, French beans, cauliflower, beets, potatoes, lettuce. Hard: Artichoke, celery, spinach, boiled cabbage. *Fruits, etc.*—Easy: Baked apples, oranges, grapes, strawberries, peaches, cocoa, coffee, black tea, claret. Hard: Apples, currants, raspberries, apricots, pears, plums, cherries, pineapples, chocolate, pickles, beer.—*Journal of Reconstructives.*

THE COMPARATIVE COST OF FOODS.—Oatmeal is one of the cheapest foods we have; that is, it furnishes more nutritive material, in proportion to the cost, than almost any other. Wheat-bread and rice, on the other hand, are the most expensive, in proportion to their cost, of the staple vegetable foods. By taking into account all the nutritive substances, it is estimated that twenty-five cents will pay for 0.29 of a pound of nutrients in beef sirloin, 0.40 in round beef, and 0.92 in neck beef; oysters, 0.12 to 0.17; shad and bluefish, about 0.28; smoked-herring, 1.21; cheese, 1.08 to 1.35; milk, 0.99; wheat-bread, 2.08 to 2.75, etc. Of course, in the comparative value of foods, their actual physiological use is not unimportant. Foods rich in nutrients may not be readily assimilable, and only physiological experiments can finally determine their actual nutritive value. From a study of the dietaries of factory and mill operatives, mechanics, and other people engaged in manual labor in Massachusetts and Connecticut, the most noticeable features observed were the large quantity of food consumed, especially of animal food and fats. The total amount of nutrients per man per day varies in the Massachusetts dietaries from 690 grammes to 1,052 grammes; while in the European dietaries the normal range is from 653 to 863 grammes. In the European the consumption of fats ranges from 13 to 100 grammes, while in the Massachusetts dietaries in no case does it fall below 127, and reaches as high as 304 grammes. If common usage in Europe, and the standards which are currently accepted there, are correct expressions of the proper quantities of food and of fat for healthful nutrition, the quantities of total food, of meats, and especially of fats, in the New England dietaries examined, are needlessly large, and in some instances excessively so. The dietaries studied, all pointed in one direction, indicating that in this country a large excess of food is consumed, not only by well-to-do people, but also by those in moderate circumstances. This excess consists mainly in meats and sweetmeats, which are expensive, as well as physiologically injurious when consumed in too large quantities.—*Science.*

ARTIFICIAL COCAINE.—Merck is said to have prepared cocaine by synthesis. Cocaine is benzoic methylecgonine. Benzoic ecgonine is treated with iodide of methyl in slight excess, in the presence of methylic alcohol at 100° C.; the excess of iodide and methylic alcohol is driven off by heat; from the resulting syrupy liquid cocaine is extracted. This artificial cocaine melts at 98°, like its prototype, and it possesses all the reactions of the natural product.

THE RESULTS OF TREATMENT IN DIPHTHERIA.—Dr. Wooster Beach, of this city, takes exception to a statement made in a paper on "Diphtheria and its Treatment," concerning the mortality of the disease, which is stated, on the authority of the statistics of the Health Department, to be over forty-two per cent., and which was reduced by treatment in the cases described to about fifteen per cent. Dr. Beach writes: "Now, without attempting to prove the fact by statistics, I state very confidently, first, that not one case in ten, except it be fatal, is reported to the Health Department; and, second, that the average mortality from the disease in this city does not reach fifteen per cent." Allowing for cases of tonsillitis, diagnosticated as diphtheria, and for other errors in diagnosis, the writer expresses his confidence that practising physicians will sustain him in his estimate of the mortality of true diphtheria, although when the larynx is invaded the death-rate is enormously increased. He says that he has tried many of the plans advocated by reliable authorities, and that now his treatment of the disease is practically nil, yet he sees very little difference in the results obtained. "Dr. Smith's percentage of cures does not, then, exceed that following ordinary treatment, and this leads me to the object of my communication: to protest against this harassing, I might say, torturing, of the little patients by the almost continual syringing, spraying, and dosing. I cannot better illustrate this point than by extracts from the article. One 'little patient was very intractable, so that I was never able to satisfactorily syringe out his nose and throat.' Another 'required the united efforts of my assistant, nurse, and father of the patient to hold him in a chair while I syringed out his throat and nostrils.' I have had personal experience in such scenes, and firmly believe that the baneful effects of the fright, excitement, and exhaustion must counterbalance any advantage of the treatment, allowing it to be of service at all. Two cases of death immediately following, and not improbably caused by violent resistance to the syringing process have come to my knowledge. I hold that in this disease, in fact in all others, remedies or measures that may do harm should never be employed unless the evidence of their superiority over more innocuous means can be fully sustained."

PRIMARY CARCINOMA OF THE OMENTUM.—Dr. E. D. Coonley, of Mariner's Harbor, writes: "With reference to a statement made by Dr. Ferguson at a recent meeting of the New York Pathological Society, that he had never seen a case of primary carcinoma of the omentum, and that they were exceedingly rare, I would like to quote the following from notes of an autopsy made by me in October, 1883: The great omentum was the seat of large cancerous deposit; was greatly thickened and increased in weight. The kidneys were not examined, but were probably normal, judging from the character of the urine examined a few hours before death. The spleen, stomach, and liver were perfectly normal."

A LARGE FIBROID TUMOR.—Dr. Atherton, on October 22d last, removed a fibroid tumor of the uterus weighing about sixty pounds. The patient was thirty-five years of age, and the tumor first showed itself immediately after marriage, twelve years ago. Its seat of growth was in the anterior wall of the uterus and was firmly adherent to the abdominal wall, evidently receiving a large part of its blood-supply through the enlarged branches of the epigastric arteries. The patient has gained twenty-eight pounds since the operation.—*Canada Medical and Surgical Journal*, March, 1886.

THE NEED OF A LAW TO REGULATE THE PRACTICE OF MEDICINE IN MARYLAND is apparent from the following certificate of death of a bride of two months. The document was filed with the Health Department after having been used as a subscription paper to collect funds to enable the remains to be buried. It was given by Dr. Johnson, a colored herb doctor, of Stockholm Street, and read as follows: "March 3, 1886.—Mrs. Larro Jones, she dide with Liver dease & New Moner she daparted from this life & Mat with chance to Make her leafe & got to glory. We ask freands & Brother & Sister for what they Can give to halpe to Bary the body away."

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 19 NEW YORK, MAY 8, 1886 Whole No. 809

MEDICAL LIBRARY OF THE BOSTON CITY HOSPITAL

Original Articles.

THE MALARIAL "GERM" OF LAVERAN.

BY GEORGE M. STERNBERG, M.D.,

MAJOR AND SURGEON, U.S.A.

(Continued from p. 493.)

IN a plate accompanying the recent memoir of Marchiafava and Celli,[1] these crescentic bodies are figured, not as attached accidentally to red blood-corpuscles, but as developed in them, and as being a later stage in the development of body No. 2, shortly to be described. We cannot attempt to reproduce the excellent lithographic plate which illustrates the various phases in the development of the parasite, as interpreted by these observers, and must content ourselves with the remark that according to them the crescentic bodies are developed from body No. 2 in the interior of the red blood-corpuscles, and simply represent a more advanced stage in the evolution of these bodies at a time when the corpuscle has been nearly (as in B, Fig. 3) or entirely destroyed. Subsequently the crescentic body, according to these observers, becomes oval, and then spherical in form. Whether the life-history of the parasite has been correctly worked out by the Italian observers is a question which we cannot attempt to decide. However, the exact relation which this body No. 1 of Laveran bears to body No. 2 is a question of secondary importance, which we may leave for future investigation. The main interest, from an etiological point of view, attaches to body No. 2, *which is found in the interior of the red blood-corpuscles*, and which corresponds with the hyaline bodies found in such vast numbers, in the same situation, in the capillaries of the brain, liver, spleen, and other organs, in fatal cases and pernicious malarial fever.

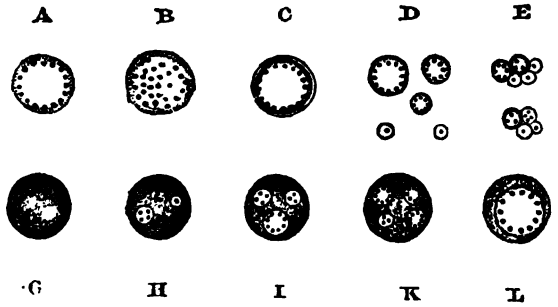


FIG. 4.—A, body No. 2 of average volume; B, body No. 2 enclosing mobile pigment granules; C, body No. 2 in which a double contour may be distinguished; D, bodies No. 2 of small size, free and isolated; E, bodies No. 2 of small size aggregated; G, H, I, K, red blood-corpuscles, to which are attached the bodies No. 2 of small size to the number of one, two, three and four; L, a red blood-corpuscle, to which is attached a body No. 2 of average size; the corpuscle is very pale. (Magnified about 1,000 diameters.)

This body No. 2 is described by Laveran as follows:

"These elements are without question the ones most frequently encountered in the blood of malarial patients. Fig. 4 shows the principal aspects under which they present themselves to the observer. Their form is spherical; but we will see further on that this form may be modified under the influence of movements comparable to amœboid movements.

"The dimensions vary considerably; the smallest of these bodies are scarcely one micromillimetre in diameter, the largest may have a diameter of ten to eleven micromillimetres.

"The contours are indicated by a very fine line, and we may sometimes distinguish a double contour (C, Fig. 4), especially in preparations treated with osmic acid, colored with picrocarmine and mounted in glycerine.

"These elements appear to be made up of a very transparent hyaline mass enclosing rounded granules of pigment of a black, or deep-red color, identical with that found in bodies No. 1. The smallest of these bodies often enclose only one or two granules of pigment (D, Fig. 4); in the bodies which have a greater volume the pigment grains are often disposed regularly in the form of a crown (A, C, Fig. 4), or they may be distributed without order (B, Fig. 4), and in this case are animated with active movements comparable to particles of solids in a liquid in ebullition. This agitation of the pigment granules has a certain resemblance to the Brownian movement, but has not the regularity of this latter; sometimes the movement is arrested completely, sometimes it is exaggerated without any change having occurred in the physical condition of the preparation. *A priori* one would be tempted to believe that the pigment granules are animated by a movement proper to themselves; we will see further on, in studying the mobile filaments, that the movement is probably communicated. The pigment granules are immobile in the bodies No. 2 of small volume, while in those of average dimensions and of large size they may almost always be seen to move at certain times, especially in a preparation maintained at a temperature sufficiently elevated.

"These spherical bodies are sometimes free in the serum, sometimes attached to the red blood-corpuscles (H, I, K, L, Fig. 4). The bodies of small size free in the serum are often united in groups of four, five, six, or more (E, Fig. 4). The spherical bodies attached to the blood-corpuscles have a variable size; sometimes there is but a single body of small dimensions, enclosing one, two, or three granules of pigment, or there may be two, three, or four such bodies attached to the same corpuscle (H, I, K, Fig. 4); sometimes these bodies are more voluminous and have a diameter almost equal to that of the diameter of the corpuscle, which becomes more and more pale, and is only recognized by a zone of a pale yellow color surrounding the parasite. A moment finally arrives when the corpuscle can no longer be distinguished except by its contour; its color has disappeared; its transparency is the same as that of the parasite which is attached to it. This last body then appears to be surrounded by a transparent zone, which is more or less concentric to it; soon the corpuscle disappears entirely, and in proportion as it is effaced the body No. 2 augments in volume.

"We find often in preparations of the blood of malarial cases red blood-corpuscles which present little clear spots which might be designated under the name of *hématies piquées* (G, Fig. 4). It is probable that these clear spots are produced by the spherical bodies just born, so to speak, which do not yet contain pigment. MM. Marchiafava and Celli[1] seem to have observed this phase of the alteration which occurs in the blood of malarial cases.

"Certain bodies No. 2 enclosing pigment granules have exactly the diameter of the red corpuscles; we may, therefore, ask whether we have to do with parasitic

[1] Trans. R. Acad. Lincei, 1884.

[1] Gazz. degli Ospitali, 1883, No. 66.

elements having an independent existence, or with corpuscles altered by the presence of parasites which have penetrated into the interior of the corpuscles, as weevils penetrate grains of wheat. This hypothesis and this comparison have been made by Richard.[1]

"Besides these bodies No. 2 which have nearly the diameter of the red corpuscles, there are others which are only one or two micromillimetres in diameter, and which are consequently smaller than the smallest blood-corpuscles in diameter; the existence in the blood of bodies No. 2 of small size, free, and independent of the corpuscles, shows that these bodies have a proper existence; besides, a blood-corpuscle which has no envelope, properly so called, and of which the elasticity is so great that it yields to the slightest pressure, cannot be compared to a grain of wheat.

"Richard himself has abandoned the hypothesis which he had proposed. In his last communication upon the microbes of paludism he expresses himself as follows: 'These bodies are sometimes isolated, sometimes attached to each other in twos, in threes, or even in fours. But much more frequently, in place of swimming freely in the plasma they are attached—*accolés*—to the red corpuscles, at the expense of which they are nourished. Sometimes the corpuscle with its parasite preserves its discoid form, more often it assumes the shape of a cap and embraces the microbe by its concavity. One might then believe that the parasite is included in the corpuscle itself, and I have thought for a long time that this is the case; to-day I am persuaded to the contrary.'"[2]

The writer has heretofore spoken of these bodies as being "in the interior" of the red blood-corpuscles; this was the impression I obtained when they were demonstrated to me by the Italian observers heretofore named, and is an inference resulting from their supposed identity with the hyaline bodies, which appear to be included in the red corpuscles, in the capillary vessels of the brain, etc., in fatal cases of "pernicious fever." This is also the view of Marchiafava and Celli, who have made extensive observations during the past summer in the Santo Spirito Hospital of Rome,[3] where the material for such studies is most ample. Moreover, the stained preparations made by these gentlemen from blood drawn from the finger of a malarial patient, in my presence, seemed to justify this inference. But in view of the different opinion held by Laveran and by Richard I am not disposed to consider the point as definitely settled, and would commend it to the special attention of future observers.

In Laveran's account of his body No. 2, as above quoted, he remarks that "their form is spherical; but we shall see further on that this form may be modified under the influence of movements comparable to *amœboid movements*."

This phenomenon, referred to by Laveran, has been repeatedly observed by Marchiafava and Celli, and was demonstrated to me during my recent visit to Rome. Passing through the Santo Spirito Hospital, Dr. Celli selected a case in which the initial symptoms of a malarial paroxysm were developed, and drew a little blood from the patient's finger in the manner recommended by Laveran. This was immediately placed under the microscope, and after a little search a red blood-corpuscle was found which, *apparently, contained* a refractive spherical body, corresponding in size and location with the hyaline bodies which I had often seen in Councilman's sections of brain, etc., from the two cases of pernicious fever described by him. I would have been unable to determine whether this body was in truth a living organism by its appearance alone, but watching it for a time I had the most unequivocal evidence that such was the case. I observed, first, that, after a period of quiescence, a minute bud was put out from one side of the spherical body; this was the commencement of a change in form, amœboid in character, which continued for some time, and during which the body under observation assumed a variety of shapes, as shown in Fig. 5, which is copied

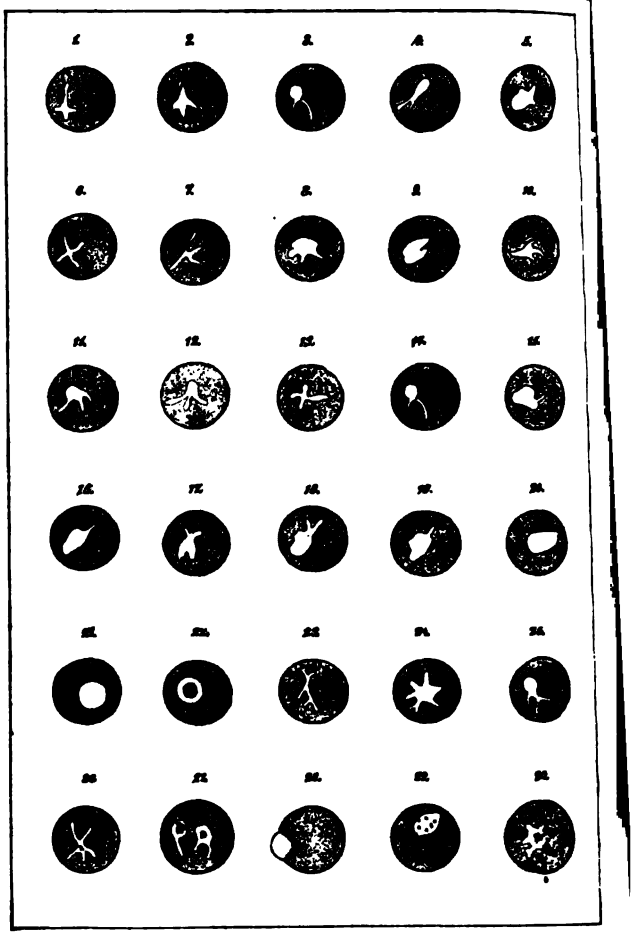


FIG. 5.—Figures 1 to 22 represent the changes in form which a single plasmodium, included in a red blood-corpuscle, was observed to undergo within a period of twenty minutes. Figures 23 to 27, 29, and 30 show other forms assumed by plasmodia, some with and some without pigment. Figure 28 shows a motionless plasmodium emerging from a red blood-corpuscle; the blood was taken after the paroxysm of fever and administration of quinine. (Copied from the latest paper by Marchiafava and Celli, published in Friedlander's Fortschritt der Medicin, December 15, 1885.)

from the paper of Marchiafava and Celli, heretofore referred to. This I saw repeated not in one corpuscle only but in several, and had thus an ocular demonstration that these bodies are living amœboid organisms. The motions were quite slow, and were manifested by a gradual change of outline rather than by visible movement. After a period of amœboid activity of greater or less duration the body again assumed an oval or spherical form and remained quiescent for a time. While in this form it was easily recognized, as the spherical shape caused the light passing through it to be refracted and gave the impression of a body having a dark contour and a central vacuole; but when it was flattened out and undergoing amœboid changes in form, it was necessary to focus very carefully and to have a good illumination in order to see it. The objective used was a Zeiss' one-twelfth inch hom. ol. im.

We find further reference to this amœboid movement in Laveran's work (p. 168):

"When one examines these bodies No. 2 of average dimensions, or of large size, at a temperature of 30° to 35° C., one may often see that they undergo changes of form, while the pigment-granules in their interior are agitated in a very lively manner; these changes, which are produced slowly, as in the amœbæ, are easy to verify when the same element is left for a considerable time in the field of the microscope, and when a drawing is made, every five minutes for example. Little buds of proto-

[1] Communication to the Academy of Sciences, February 20, 1882.
[2] Revue Scientifique, 1883, p. 114.
[3] Since this paper was written I have received from Marchiafava and Celli, a reprint of their last communication, published in the Fortschritte der Medicin, No. 24, December, 15, 1885. This paper embodies the results of their researches during the past summer, which are confirmatory to those previously published.

plasm are sometimes formed upon the margin of body No. 2.

"When body No. 2 is examined attentively, it happens sometimes that we see it undergo segmentation into three or four similar elements of small volume; these elements may again coalesce to form a single body, resembling in all particulars the primitive body No. 2."

Marchiafava and Celli have also observed this segmentation, and believe that it represents an important phase in the life-history of the parasite, and, in fact, that it is the usual method by which it multiplies. They have found evidence of segmentation also in the hyaline bodies included in the red blood-corpuscles in some of their sections of brain-tissue from cases of pernicious fever. I have in my possession a preparation, which they kindly gave me, in which the hyaline bodies (Laveran's bodies No. 2) are deeply stained with visuvine, and in which groups of two to six or eight small spherical bodies are to be seen included in the red corpuscles, which it seems probable may have been developed as a result of the segmentation of the larger bodies.

Continuing to quote from Laveran, we find the following:

"*Mobile filaments.*—When a preparation of blood containing the spherical bodies described is examined attentively, it often happens that upon the margins of some of these elements we may distinguish filaments which are in active movement, and which impart to the neighboring blood-corpuscles very rapid and varied movements. These mobile filaments, of which the vital activity is incontestable, appear to represent the adult state of the malarial microbe; their study, then, is of great importance, but, unfortunately, is attended with considerable difficulties. The mobile filaments are very long for microbes, as they are at least three or four times as long as the diameter of a red blood-corpuscle, that is to say, twenty-one to twenty-eight micromillimetres long. But their tenuity and their transparence is such that when they are in repose one does not see them. It is thus that in repose the vibratile cilia of certain infusoria are invisible. It is well known that a glass rod plunged in Canada balsam becomes invisible, the index of refraction of the glass being nearly the same as that of the balsam. Still more difficulty attends the detection of very fine and transparent filaments in a state of repose in the serum of the blood.

"The movements of these mobile filaments are often arrested for a time when the blood has been collected upon a glass slide, especially if the exterior temperature is low, and if one does not make use of a hot stage. I have several times remarked at Constantine, during the summer, when the external temperature is quite elevated, that the movements of these filaments may be observed at the commencement of the examination of the blood; while in winter, when the temperature of the laboratory was low, it was often necessary to wait a long time in order to see the mobile filaments. We note, finally, that those mobile filaments correspond to a certain stage in the evolution of the malarial parasite, and that consequently we should not expect to find them permanently," *i.e.*, at all times, "in the blood of malarial patients.

"For these different reasons the search for these filaments is quite difficult, and it will be understood how it has happened that these microbes, notwithstanding their length and the vivacity of their movements, have so long escaped the attention of observers.

"Sometimes these mobile filaments are free in the midst of the blood-corpuscles, sometimes they adhere by one of their extremities to the spherical bodies No. 2. The free filaments move in the midst of the red corpuscles like an eel, and it is difficult to follow them; the filaments which still adhere to the bodies No. 2 are more easy to study, because they move vigorously without change of location and remain in the field of the microscope. . . .

"Dr. Richard has given an excellent description of the varied movements presented by these mobile filaments; he says: 'These filaments are animated by extremely active and energetic movements, by which the neighboring blood-corpuscles may be deformed or even displaced. From time to time the movement relaxes, to take the same activity after an interval of some instants; when they encounter some obstacle which interferes with their evolution the filaments redouble their activity; to see these movements one would almost say that they have an intentional character: thus one day it happened to me to observe a filament wrapped around a mesh of fibrinous reticulum, immediately its activity increased, it was agitated by veritable jerks, by movements of impatience, if I dare express myself thus, as if it sought to disengage itself. These little dramas in the field of the microscope are varied and often very attractive."

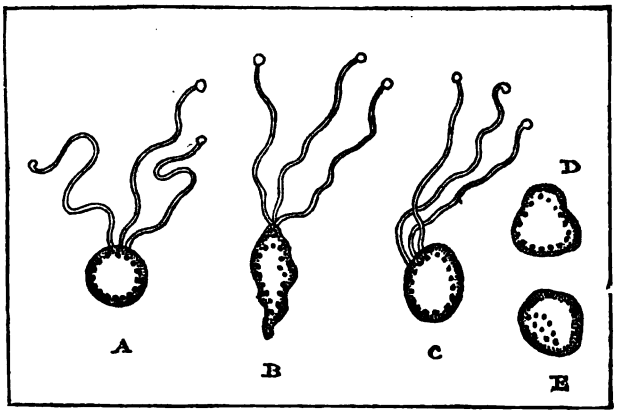


FIG. 6.—A, body No. 2 furnished with three mobile filaments, seen December 1, 1880, at three o'clock in the afternoon; B, the same body, drawn at a quarter past three o'clock; C, the same body, drawn at half-past three; D, the same body, at thirty-five minutes past three; E, the same body, drawn the following morning at half-past eight o'clock. (Magnified about 1,000 diameters.)

. . . "The movements of the mobile filaments may persist for two or three hours, in general they cease in much less time. When pressure is made upon the cover-glass in such a way as to act mechanically upon one of these bodies No. 2 furnished with mobile filaments, the motions are almost always arrested. When one examines one of these spherical bodies furnished with filaments, the first idea which presents itself is that the object in view is a pigmented mass of spherical form having pseudopodia. Such was the first hypothesis which I made with reference to the structure of these bodies; a more attentive examination soon showed me that it was necessary to abandon this interpretation. In the first place, it is often impossible to discover any mobile filaments upon the margin of the bodies No. 2, even when they have attained their average dimensions; in the second place, the number of the mobile filaments is variable; finally, when we examine for some time one of these bodies No. 2 furnished with mobile filaments, it will be found almost always that in the end these filaments are detached from the body No. 2, in which they had been inserted; these filaments circulate then at liberty in the midst of the red corpuscles, while the body No. 2, like a cyst which has been emptied, remains motionless and soon becomes deformed. The spherical bodies are probably little cysts, in the interior of which the mobile filaments are developed; it has happened to me several times to see the mobile filaments which had only partially escaped from body No. 2, and which during the examination completed the process of liberating themselves from their cyst. . . . Dr. Richard has also verified the fact that the mobile filaments adherent to body No. 2 often become detached from these bodies. He says: 'The filaments often take an independent existence; they become detached from the mother-element, and then, with prodigious agility, they precipitate themselves like little serpents through the pile of red corpuscles, and it is very difficult to follow them for a long time on account of the

rapidity and extent of their movements. In those cases in which these filaments are numerous the blood appears to be literally living.' "[1]

Marchiafava and Celli have also seen these mobile filaments attached to body No. 2. Their observations and figures indicate that they are flagelliform pseudopodia, which are developed during a certain phase in the evolution of this remarkable micro-organism, rather than independent bodies set free from a cyst. Whatever may be the truth in this regard, it can hardly be questioned that the flagellate bodies containing pigment granules, which have been seen by all of the observers mentioned in the blood of patients suffering from malarial fever, are derived from the far more numerous bodies No. 2 of Laveran, and constitute one stage in the development of this blood-parasite; and that the free mobile filaments described by Laveran and by Richard are detached from these bodies under certain circumstances, and may for a time retain their vital activity independently of them.

Laveran describes a third form, "body No. 3," which he considers a "cadaveric form" of the parasite. He says: "These elements are composed of little masses of hyaline material enclosing pigment-granules, disposed in various ways. . . . It is easy to satisfy one's self that these elements are only the cadaveric forms of bodies No. 1 and No. 2. When we leave under the microscope a preparation containing bodies No. 1 and No. 2, and examine them at the end of twenty-four or forty-eight hours, it will nearly always be found that these elements are distorted—*se sont déformés*—and that they have taken the aspect of the bodies No. 3. . . . In the bodies of individuals dead from malarial fever bodies No. 1 and No. 2 rapidly take the aspect of body No. 3; it is in this condition that the parasitic elements are found in great number in the small vessels of the various organs in subjects dead from pernicious fever, notably in the spleen, in the liver, and in the brain; these are the elements which, when agglomerated in masses, constitute the hyaline concretions which Frerichs has very well observed and described."

Laveran, in his first communication, gave to the blood-parasite, which he had discovered, and which he believed to be the cause of the disease with which, according to his observations, it is constantly associated, the name of *oscillaria malariæ*. He has since abandoned this name, which had been criticised, and says in his recent work, from which we have already quoted so extensively: "I renounce this name the more willingly for the reason that the *oscillariæ* are to-day classed among the vegetables, while the malarial parasite appears to me to belong to the animal kingdom rather than to the vegetable." The account above given fully sustains this view, and it is evident that this organism does not belong to the *bacteria*, the class which includes the spirillum of Obermeier, the tubercle bacillus, and other known "disease germs," but is rather one of the *protista*, which, according to Haeckel's classification, includes a large number of the lowest forms of life, which are neither distinctly animals nor vegetables, but form "a kingdom of organic nature intermediate between these two." Marchiafava and Celli, in their latest paper (*loc. cit.*), propose to call this organism *Plasmodium malariæ*.

The etiological relation of this amœboid blood-parasite to the form of disease with which it is associated can scarcely be questioned, if additional researches sustain the conclusion of the observers heretofore quoted as to its constant presence in the blood in typical cases of malarial fever, and its absence from the blood of healthy persons or of those suffering from other forms of disease. The idea that a parasite of this kind, which attacks directly the blood-corpuscles, and which in fatal cases of pernicious fever is found in vast numbers in the interior of these essential histological elements of the blood—or, according to Laveran, attached to them—is to be considered a mere epiphenomenon, until such time as its causal relation to the morbid phenomena has been proved by inoculating lower animals with pure cultures, can scarcely be entertained in the present stage of scientific investigation in this direction. We have no satisfactory evidence that the lower animals are subject to malarial diseases, and this final proof, however desirable, may be unattainable. We have, however, some recent inoculation experiments upon man, which give some support to the view that this parasite is the essential cause of the periodic fevers denominated malarial.

Marchiafava and Celli have, in five cases, made the direct experiment of injecting blood drawn from the circulation of a malarial patient, and demonstrated by microscopical examination to contain the parasite heretofore described, into the veins of individuals free from malarial disease, and from exposure to malarial influences (?), and claim that typical attacks of intermittent fever have resulted from such injections. The temperature charts given sustain this claim in three of the five cases, and the only doubt which arises as to the value of the experiment is that which is based upon the possibility of an attack developed as a result of exposure to malarious influences from without rather than from the injections made. The circumstances, as detailed, and the number of cases subjected to the experiment (five) seem to exclude this source of error; but additional experimental evidence from other sources will be necessary before we can admit that intermittent fever is an infectious disease transmissible from individual to individual by intravenous injection of the blood of one suffering from a malarial attack.

We select Case 3 as the most characteristic of those given in the memoir[1] of the authors referred to.

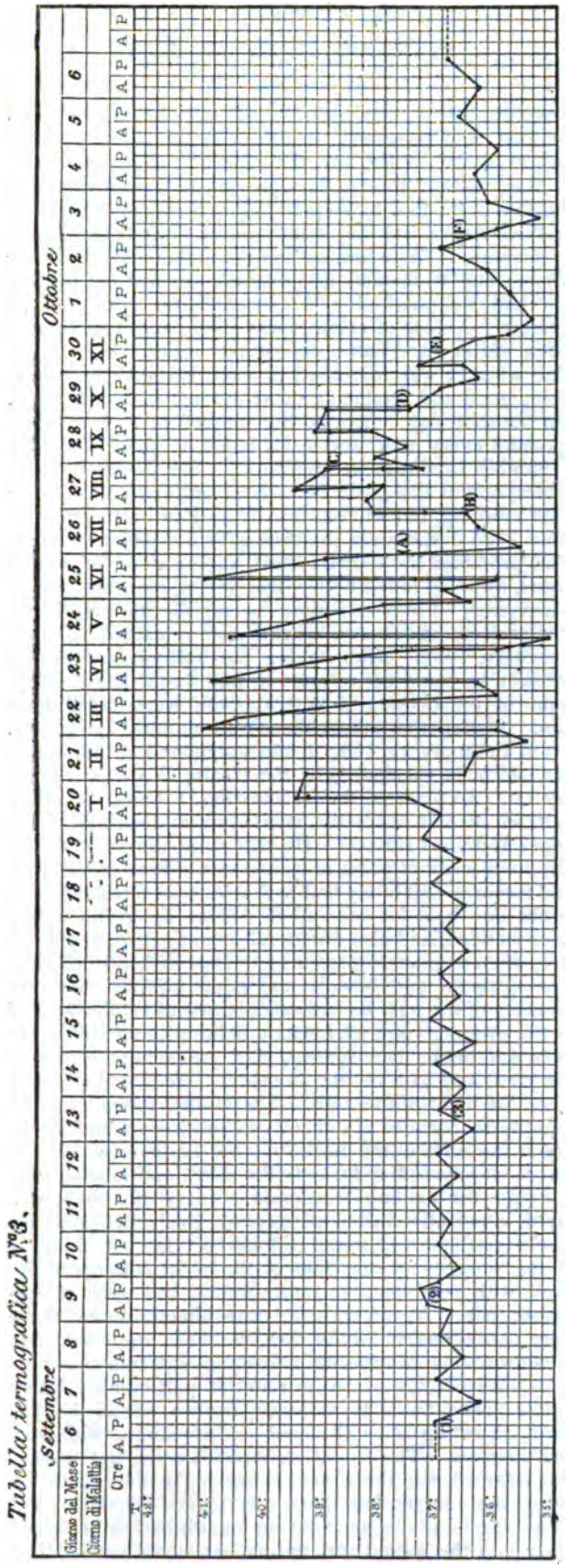
The subject of the experiment, M. C——, was a patient in the hospital of Santo Spirito, aged thirty-two, under treatment for multiple sclerosis. He had never suffered from malarial fever, and his temperature, taken for several days in advance of the experiment, showed no abnormal elevation. On September 6th, one gramme of blood from a patient in the cold stage of an intermittent attack—quotidian—was injected subcutaneously. Three days after, an intravenous injection was made of one gramme of blood taken from a patient in the hot stage of a quotidian intermittent attack. These injections were not followed by any immediate rise of temperature, or other noticeable effects. A third intravenous injection of one gramme of blood from a patient with malarial cachexia, and irregular febrile attacks, was made September 13th.

No elevation of temperature occurred during the seven days following this third injection, but on the afternoon of September 20th, a sharp access of fever occurred, as shown in the accompanying temperature chart. Defervescence took place the following morning, with abundant perspiration. This was followed on the 22d by another paroxysm, in which the temperature quickly rose to 41.2° C. (106.2° F)., and by other characteristic paroxysms occurring on three successive days. The administration of quinine was commenced on the 27th (45 grains), and continued as indicated by the letters in the chart: A, 3 grammes; B, 2 grammes; C, 2 grammes; D, 1.50 gramme; E, 1.20 gramme; F, 1 gramme. The spleen was notably enlarged during the attack and the case bears every evidence of having been a typical one of quotidian intermittent fever. Examination of the blood, repeated every day, demonstrated the presence of pigmented leucocytes and of the "initial form" of the parasite. Both disappeared under the administration of quinine. Two other cases similar to this are reported, and in one (Case 1) the remark is made that the microscopic examination of the blood fully confirmed the diagnosis as to the malarial nature of the fever, the parasite having been found in the red cor-

[1] Revue Scientifique, 1883, p. 115.

[1] Nuove richerche, etc., op. cit.

puscles, at first in small numbers, and subsequently in great abundance, and having disappeared after the administration of full doses of quinine, by which the febrile paroxysms were arrested.



The authors quoted refer to two cases reported by Gerhardt,[1] in which a similar result was obtained by inoculations, in man, with malarial blood. The period of incubation in these cases is said to have been seven and twelve days. They remark that in their own experiments it is difficult to fix the period of incubation, owing to the fact that several successive inoculations were made in each case.

Laveran finds an additional argument in favor of the etiological rôle of the parasite discovered by him in the curative action of quinine. According to his observations, the parasite quickly disappears from the blood under the administration of quinine, and in this he is also confirmed by Marchiafava and Celli. In experiments made with blood drawn from the veins of a malarial patient which was rich in the parasitic elements, and contained notably body No. 2 furnished with mobile filaments, it was found that very dilute solutions of quinine—a drop of a solution of a salt of quinine containing 1 : 1,000—quickly arrested the motion of the mobile filaments, and caused the parasite to assume its "cadaveric form."

The writer has elsewhere shown[2] that laboratory experiments made to determine the germicidal power of quinine do not justify the belief that this agent can be introduced into the circulation in sufficient quantity to arrest the development of such an organism as the *bacillus malariæ* of Klebs and Tommasi-Crudeli. "A dose of ten grains of quinine, if absorbed at once and retained in the blood, would not constitute, in an adult weighing one hundred and sixty pounds, $\frac{1}{150}$ part of one per cent. (1 : 15,000) of the entire mass of blood." But the experiments of Professor Ceri[3] and others,[3] show that this amount would be entirely inadequate to prevent the development of bacteria in culture fluids, from 1 : 800 to 1 : 3,000 of a soluble salt of quinine—muriate—being required.

As long ago as 1871, Vulpian,[4] from experimental data, arrived at the conclusion that it would be necessary to administer more than thirty grammes of muriate of quinine to patients with malarial fever, in order to destroy vibrioniens in their blood. We have also very satisfactory clinical evidence in support of the conclusion, based upon biological experiments, that it is impracticable to destroy bacteria in the blood of a patient by the administration of the salts of quinine, or by any other known germicidal agent. The experience of Carter,[5] Pepper,[6] and others, shows that quinine in full doses has no power to arrest a paroxysm of relapsing fever, or to prevent a relapse. Carter says: "In practice, however, the blood-spirillum and the febrile symptoms remain unaffected after quinine given largely, to cinchonism, after narcotism by chloral and the freest exhibition of spirituous liquors; also, after the administration of the carbolates and very large doses of the salicylates. Hence, as yet, there is no evidence that the drugs named, when administered variously and in doses consistent with safety, possess a manifest parasiticidal efficacy in relapsing fever. . . . Interesting details have been published, and some were acquired in India, showing that large doses of quinine and of sodium salicylate, given persistently at short intervals through the entire first apyretic period of relapsing fever, have entirely failed to prevent or even mitigate the first relapse.[7]

It is evident, then, that the results of laboratory experiments are in accord with clinical experience as regards organisms of this class—*bacteria*. But, on the other hand, there is evidence that the *infusoria* are far more susceptible to the action of quinine, and the data available rather favor, than contradict, the assumption that the specific curative power of this drug may depend upon its restraining influence upon the development of an *amœboid* blood-parasite like that discovered by Laveran. And in support of this hypothesis we have the tes-

[1] Zeitschrift f. klin Med., vol. vii., fasc. 40.

[1] Malaria and Malarial Diseases, p. 76.
[2] Arch. f. Exper. Pathol. und Pharmakol, Bd. 15, Heft 324, and Bd. 16, Heft 122 (1882).
[3] The writer has repeated these experiments and arrived at similar results.
[4] Cours d'Anatomie Pathologique.
[5] Spirillum Fever, by Vandyke Carter, M.D., p. 328. London, 1882.
[6] System of Medicine, Article, Relapsing Fever, vol. i. Philadelphia, 1885
[7] Op. cit.

timony of Laveran, and of the Italian observers mentioned, as to the disappearance of the parasite, *pari passu*, with the morbid phenomena, under the influence of the administration of quinine, and the direct experiments of the first-named author, showing that this drug in very dilute solution promptly arrests the vital activity of the parasite discovered by him.

Further researches are no doubt necessary to establish definitely the claim of this amœboid parasite to be admitted into the family of recognized "disease germs," and it may be that we shall find eventually that its life-history is more complex than is indicated by the observations of Laveran, or that he has not properly interpreted what he has seen. But I cannot doubt the fact that the objects described by him as found in the blood of malarial-fever patients are in truth parasitic micro-organisms; and the evidence above recorded seems to me to support very strongly the inference that this peculiar blood-parasite is directly concerned in the etiology of the malarial fevers.

If this proves in the end to be true, it will be another illustration of the fact that we often arrive at the truth through a series of errors, and that veritable discoveries are often viewed with unreasonable scepticism because they do not correspond with preconceived ideas; while pseudo-discoveries which fall in with the current of prevailing opinion may receive general credence upon a very poor foundation of experimental evidence.

Post Scriptum.—Since writing the above, I have had an opportunity to verify the presence of the amœboid organism, demonstrated to me by Drs. Marchiafava and Celli at the Santo Spirito Hospital in Rome, in the blood of a malarial patient in this country. Through the courtesy of Dr. R. Nordman, resident physician at the Bay View Hospital, I received, on the 24th inst., a specimen of blood drawn from the finger of a patient at the outset of an intermittent paroxysm. The blood had been collected and mounted by Dr. Nordman, in accordance with my directions, and was brought under the microscope as quickly as possible. I was fortunate enough to find the amœboid organism, which I had previously seen in Rome, and was able to demonstrate its presence in the interior of a red blood-corpuscle, and its vital movements, to Professor Wm. H. Welch, in whose laboratory the microscopical examination was made, and to several other medical gentlemen who happened to be present.

GEO. M. STERNBERG.

BALTIMORE, March 26, 1886.

PUNISHED FOR NOT ATTENDING A PATIENT WHEN SUMMONED.—A correspondent of *The Lancet* calls attention to the punishment of a Russian physician who is being sued for refusing to treat a patient. Until the termination of the process he is prevented from leaving his dwelling-house; and as the lawsuit has lasted fifteen months (and, it appears, is not likely to be speedily concluded), all professional occupation, excepting in the cases of patients who are well enough to visit him, is impossible. He has also been prevented from going to a watering-place, to which he has of late years been in the habit of repairing for his health's sake, and this prohibition will endure until the suit is ended. Refusal to attend a patient in Russia evidently means ruin to the luckless practitioner.

TO PREVENT COAGULATION OF THE BLOOD.—A student in Professor Stricker's laboratory, Herr Ernest Freund, has suggested a most simple and convenient method of preserving blood in the fluid state. His plan consists in coating the interior of a glass vessel with pure oil. Into this receptacle blood freshly drawn is poured, and a layer of oil is then run over the surface exposed to the air. In this way, it is stated, fresh blood may be kept from coagulating for days if necessary. If this assertion be true, the discovery may be turned to great advantage in the process of transfusion of blood.

A CASE OF TRAUMATIC TETANUS, FOLLOWED, EIGHT MONTHS LATER, BY TETANOID SYMPTOMS AFTER VACCINATION.

WHISKEY TREATMENT IN EACH INSTANCE, WITH RECOVERY.

BY HOBART CHEESMAN, M.D.,

NEW YORK.

EDWARD T——, American, aged five, bright, well developed, and previously healthy, but of rather nervous temperament. I first saw the patient, a dispensary case, in May, 1882. Twelve days previously he had wounded the sole of his foot by stepping upon a fragment of glass, and two days previously symptoms of tetanus had begun to develop. There was no sign of inflammation in the wound, and it seemed insignificant, but had not healed. He had well-marked and characteristic symptoms of tetanus. A dose of calomel was given, and a teaspoonful of whiskey and half a cup of milk ordered every hour. The whiskey was increased at each succeeding visit, it doing good and producing no symptoms of intoxication. On the third day I directed the mother to give a tablespoonful every hour, and if this failed to quiet him after a number of doses, to give more. She declared that a tablespoonful was given every hour until two o'clock the next morning, but without intoxicating or putting him to sleep. In desperation she then gave a tumbler half full. This produced the desired effect, and he slept for several hours, awaking much better, and having no more severe paroxysms. From this time he rapidly improved, and was well in about two weeks, and remained so until February, 1883. After taking the half-tumbler dose of whiskey he could not tolerate it, but would show symptoms of intoxication if a teaspoonful were forced upon him. During this attack there were no head symptoms.

On February 22, 1883, I was summoned to him again. He had been vaccinated by the Health Board on February 1st. In place of the vaccination I found an ulcer half an inch in diameter, skin deep, and with clear cut edges and inert surface. He had complained occasionally for a week of pains in it, and in the front of the wrist and forearm, and lately had had cramps in this hand, and could not hold his food in it. Some feverishness had been noticed, and also nocturnal incontinence, and a desire, when at play, to pass urine on any little disturbance. The appetite and bowels had been normal. On the morning of the 21st he had complained of headache, and in the evening vomited, became delirious, and stiff in the neck and back; had spasms, with grimacing, setting of the jaws, and pain in the stomach. He had slept none since the night of the 20th. The mother thought he had diphtheria, because of difficulty in swallowing and swelling at the sides of the neck, but my examination of the throat discovered a little frothy saliva and mucus only. I found the axillary temperature 102.3° F., the pulse rapid, especially during paroxysms, lively delirium, extreme restlessness, some stiffness of the jaw, bulging of the muscles at the side of the neck, stiffness of the back, with a tendency to opisthotonus, and signs of epigastric pain. At intervals of ten or fifteen minutes there were paroxysms, in which the jaws were firmly set, with the lower one protruding, grimacing, extreme opisthotonus, in which the lower extremities participated, being rigidly drawn back or violently thrown about, the patient sprawling over the bed and screaming with pain and delirium. The upper extremities were not noticeably affected, and there was no frothing at the mouth, no biting the tongue, but there was severe dyspnœa. On attemping to administer fluid the mouth had to be forced open with the spoon, and the patient would not swallow until he was forced to by holding his nose. Articulation was defective, but the voice strong. The sounds of the heart and lungs were normal, the pupils equal, dilated moderately, and active, the eyes rather prominent and staring, tongue coated.

Treatment.—I gave calomel, grs. iij., ordered a cup half full of milk and a teaspoonful of whiskey every hour, and quinine, gr. jss., every four hours. At noon the next day I found him with the same symptoms aggravated, and ordered, in addition, a mixture of chloral, bromide, and paregoric. I was sent for again at nine P.M., and found, in addition to the other symptoms, which were constantly getting worse, violent palpitation of the heart; the whole chest-wall could be seen to vibrate with its violent and tumultuous beating. This so aggravated the dyspnœa that the mother had feared that he would suffocate during the paroxysms. Temperature was 102.8° F. At 9.30 I gave him two large tablespoonfuls of undiluted whiskey directly after a fit. This excited another mild fit, but he soon after got quieter, the pulse declining to 100 and the palpitation nearly ceasing, and at 9.50 he fell asleep. In five minutes he awoke with a fit. As soon as possible I gave another tablespoonful of whiskey, and he was asleep again at 10.10. The spasms had lately affected the upper extremities, which during the paroxysms were extended and held out rigid and trembling.

At 10.20 continues restless. After a tablespoonful of whiskey he sleeps restlessly, and wakes at 10.30 with a fit, which is milder than usual. Two tablespoonfuls of whiskey are given after the fit. The face continues rather pale, the eyes are more natural, the pupils smaller, and he speaks rationally once, for the first time. Red patches appear on the face; they soon spread, and the face becomes flushed. At 11.55 he wakes with a fit. After it subsides he is given two tablespoonfuls of whiskey, and sleeps until five minutes after twelve, awaking without a fit for the first time; he passes four ounces of normal-colored urine. At 1.5 o'clock A.M., after sleeping quietly for another hour, he wakes without a fit, takes a cup of milk and two tablespoonfuls of whiskey, and then goes to sleep directly. I left him at 1.30 still sleeping. From 9.30 P.M. to 1 A.M. he had taken ten tablespoonfuls of whiskey, and still did not seem to be drunk. The whiskey was of good age and full strength. During the next thirty-six hours about a pint and a half of whiskey was required to control the violence of the symptoms; in the twenty-four following this period about three or four ounces, after which an occasional dose, and that only as a stimulant, he having, after the fits of convulsions ceased, occasionally, for several days, attacks showing symptoms of collapse, with palpitation and præcordial pain. Whiskey always relieved them.

On the 24th, about noon, I visited him, and he answered rationally, but continued for two days after this more or less delirious. At this visit he was covered with a rash, scarlatina-like, but it soon faded and had disappeared at next visit.

On the 25th I noticed, for the first time, that the left hand was held constantly in a cramped condition, with the thumb and little finger crossed. He complained that needles were sticking through his temples, and of pain in the top of his head. Two leeches were applied in front of each ear, but he continued to complain of the same pains for several days. He had at this visit very decided Cheyne-Stokes respiration. This was noticed on one or two other occasions, in a less degree.

On the 26th, loud, coarse mucous râles were heard all over both lungs, and he raised a frothy sputum like that in the fauces. These symptoms lasted two days.

On the 27th he kept saying that there were worms in his feet, and that the soles were sore, and his mother declared that in the evening both feet and legs became hot and considerably swollen, and remained for three or four hours in this condition.

On the 28th the tongue began to clear, and on March 2d the temperature was normal, and remained so thereafter. It had ranged as follows: 22d, 102.5°; 23d, 102.3°; 24th, 102.5°; 25th, 102.8°; 26th, 101.8°; 27th, 101.3°; 28th, 101°, taken each day in the afternoon. On March 6th considerable stiffness and soreness remained in the neck and back, but it was diminishing rapidly, and had disappeared from other parts. Formerly, when raised to a sitting posture, the spine would curve in and be held very rigid, while he would cry with the pain.

On March 12th he seemed well, but was rather nervous, and the eyes had a wild, startled expression; the same symptoms had been noticed after the former attack. During convalescence, his mother says, he would lay all day flat on his back, very listless, appearing too exhausted to care for anything. A year later he remained well, but had not been so bright as formerly, and showed more nervousness.

This case presents all the characteristic symptoms of tetanus, viz., presence of an unhealed wound; cramps beginning in the wounded limb (this is a symptom sometimes but not often observed); stiffness of the jaw, swelling at the sides of the neck and dysphagia were early symptoms, followed by stiff back and lower extremities, and opisthotonus; at intervals there were violent and painful spasms of these parts and grimacing, while the upper extremities were not noticeably convulsed until the disease had progressed to its most violent stage; epigastric pain, indicative of cramp in the diaphragm; severe dyspnœa; indistinct speech; slight disturbance excited a fit; pupils dilated (the usual condition), but otherwise normal; no loss of control over the bladder or bowels, nor priapism; sleeplessness; no tongue nor cheek biting; accumulations of a frothy character in the fauces; muscular stiffness and soreness remaining for many days (most easily explained on the theory of the tetanus I think). Superadded to these are other symptoms not usually associated with the disease. Whether they signify anything more than sympathetic and functional disturbance I leave the reader to decide. The delirium was early and conspicuous for several days. It is well known that head symptoms may develop during tetanus, especially in children, and sometimes in adults during the latter stage of the disease. There were other nervous phenomena, which, I presume, are of about the same import as the delirium. Is it surprising that extraordinary symptoms of this nature should occur during this disease in a nervous child, when we consider the mobility of the nervous system and the close sympathy between its different functions? As to the range of temperature, I do not know that it is more satisfactorily explained by meningitis than by tetanus.

I have not seen it stated that the heart is ever affected by cramp of its muscles in tetanus, but does not the character of the palpitation noticed on the night of February 23d suggest this as a plausible explanation?

It might be interesting to inquire if the former attack was the predisposing cause of the second, and, if so, how long after an attack of tetanus would it be safe to vaccinate the patient. For evident reasons such an emergency will not often arise.

The effect of the whiskey was so decided and beneficial that I think it should be tried in similar cases oftener. That large quantities are tolerated in tetanus is well known, but not so often remembered, perhaps, as it deserves. Why should not this peculiarity furnish an urgent indication for its use in tetanus, as it is thought to do in snake-bite? I believe its success in tetanus, as in snake-bite, will be found to depend upon its being given in the largest quantities that the patient will bear.

244 West Fifty-sixth Street.

Rachitis, or Rhachitis?—A somewhat animated discussion is in progress between Virchow and certain other German physicians as to the correct spelling of the scientific term for rickets. Etymologically rhachitis is certainly correct, but custom, which often knows not etymology, would seem to have established rachitis upon too firm a basis to be overthrown.

FLUID EXTRACT OF KAVA KAVA IN THE TREATMENT OF GONORRHŒA.

By HERBERT C. ROGERS, M.D.,

ADJUNCT SURGEON, LONG ISLAND COLLEGE HOSPITAL, BROOKLYN.

For several years I have substituted for the balsam copaiva, or cubebs, or both, according to circumstances, the fluid extract of kava kava. I have rarely found copaiva or cubebs alone sufficient for the cure of the disease. The former very often causes annoying skin-eruptions before it has produced the effects for which it has been prescribed, and I have been obliged to lay it aside. Cubebs has not proved more successful in my hands. I have tried cubebs alone, in powder and in a fluid extract, and when it has not succeeded I have combined it with the balsam copaiva. One of the great objections to the use of copaiva is its extremely nauseating taste, and another is the amount of disturbance it produces in the stomach. The fact last stated is the reason why I have given up entirely the use of copaiva in my hospital practice. The cases one meets with in a large hospital practice, suffering from gonorrhœa, are generally those of broken-down subjects who have more or less catarrh of the stomach, and in which their digestion is very poor.

A patient and friend, when abroad a few years ago, unfortunately contracted a gonorrhœa while visiting Paris. He wrote to me and asked for a prescription. I sent him one containing balsam copaiva and fluid extract of cubebs. Several months later the patient called on me at my office, told me he had received my prescription, and had it prepared, but that after taking a few doses he was compelled to give it up, as it caused so much disturbance to his stomach. He went a few days without treatment, when his testicle commenced swelling and caused him so much annoyance and pain that he was compelled to send for a surgeon, who strapped the organ, and ordered him some medicine to take, remarking at the same time that it was the new drug for gonorrhœa. In two weeks my friend was all right.

It so happened that another one of the party contracted the same disease shortly after, and was also cured with but little loss of time. This gentleman was so much pleased with the medicine (having had the disease several times, and always having copaiva or cubebs prescribed for him, which invariably produced more or less nausea and destroyed his appetite) that he secured a copy of the prescription for future use.

After my friend had related the above, I asked him if he would try and obtain for me a copy. This he did in a few days. The prescription was for infusion of kava kava, half-ounce four times a day.

Having a little leisure, I looked the matter up, and found that the drug has been used in France for a considerable period. It was first recommended for gonorrhœa about 1857.

The best account of the drug that I have been able to find is in the *New Remedies* for October, 1876. From this I give a short extract:

"Kava kava is a shrub about six or eight feet high, with stems varying from one to two inches in thickness. The leaves vary from six to eight inches in length, and are nearly as broad as they are long. They are cordate, tapering somewhat suddenly into a very short acute apex. The petiole is usually one to two inches long, and is dilated at its base. The root is large and fibrous, but rather light and spongy in texture. The root has a pleasant odor, resembling lilac. It has a slightly pungent taste, and causes an increased flow of saliva, with a slightly astringent sensation in the mouth, with a little bitterness. The root and base of the stems are the portion generally used.

"The form in which it is generally used in medicine is an infusion made by macerating about one drachm of the scraped root in a quart of water, and also a fluid extract, one minim representing one grain of the root. The latter preparation is the best suited for general use.

"The action of kava-root appears to vary with the amount taken. In small doses it is said to act generally as a stimulant and tonic; but when taken in large doses it produces intoxication, which differs from that caused by alcohol in being of a silent and drowsy nature, accompanied by incoherent dreams, the drinker not being quarrelsome or excited. The taste of the plant is pleasant, while its bitterness improves the appetite and does not produce nausea."

During the past two years I have treated in all 105 cases of gonorrhœa; of these, 34 were in private practice, and 71 were at the hospital. The majority of those treated in hospital practice had had the disease once or oftener previous to the attack from which they were suffering when they first consulted me. One patient, a Swedish sailor, claimed that he had had the disease a dozen times, and stated that he had been operated upon by the late Dr. George Atkinson for stricture. When I first saw him he was suffering from a sharp attack of gonorrhœa; his testicle was swollen, and altogether he was in a bad condition. He was ordered to take fluid extract of kava kava in thirty-minim doses four times a day, and to apply a wash of liq. plumbi et Aopii to the inflamed organ. In three weeks the discharge had dwindled down to a watery condition, which remained in spite of all I could do. After trying all known means, I was compelled to cut him. He stood the operation badly, and made a slow recovery; but in two months the wound had healed, and the discharge had entirely dried up. This case was the longest one on my table.

Of the 71 cases treated at the hospital, 43 were discharged, in from six to nine weeks, cured; 13 improved, but were lost sight of before two weeks had passed; 7 never returned; and in 8 the drug did not seem to have any effect.

Of the cases in private practice, nearly two-thirds were suffering from the disease for the first time when they consulted me. The longest period that a patient of this class remained under my care was thirteen weeks. This case was that of a gentleman, and a member of one of the New York clubs. He was a bachelor, addicted to good living, and particularly fond of champagne. In spite of my warnings, after he came under my treatment, he took his wine occasionally, with the invariable result of starting up a brisk discharge. After repeating this several times, he at last left his wine alone for three weeks, when the discharge entirely ceased.

The shortest period that any patient suffering from this disease has been under my care was twenty-seven days. This was the case of a young man at college, who, while spending a few days at home, chanced to contract a mild gonorrhœa. When he first consulted me about the discharge, he could hardly believe what I told him. To convince him, I examined the young woman with whom he had had intercourse, and found her recovering from gonorrhœa. She had been treated by a New York surgeon, who informed me by letter that she had been under treatment for six weeks. It so happened that this young woman shared her favors with several young men. The morning following this examination, I was called upon by a friend of the last patient, who acknowledged having had intercourse with this same girl on the morning of the day she called upon me. Having learned that his college friend had contracted his disease from her, he was greatly alarmed, fearing that he also might have taken it. I examined him carefully, but could not discover the least evidence of any trouble. To pacify him, I injected his urethra with a solution of hyd. bichlor., one in five hundred, and placed him on twenty-minim doses of kava kava three times daily. At the end of one week he presented no evidence of disease, and was discharged.

The average period of gonorrhœa patients under my

treatment has been about nine weeks. I had but few complications. In only three cases was there swelling of the testicle. About one-fifth suffered from chordee.

In none of the cases was there any trouble with the stomach resulting from the use of kava kava. In over one-half the appetite was improved and increased. In one case the peculiar effect of the drug was manifested. The patient was a married man, whose wife was in the country when he contracted the disease. As he expected her home in three or four weeks, he was anxious to get well. Under the influence of this feeling, he took much more of the drug than had been prescribed. Instead of taking it every four hours, he took it every three. At the end of the third day, I was sent for. I found my patient suffering from a mild form of delusion. I stopped the medicine and gave a small dose of opium. By morning he was feeling all right. This is the only case that showed this symptom.

My usual prescription is from twenty to thirty minims of the fluid extract of kava kava, in water, to be repeated every four or five hours, as the case may be. The patient is restricted to plain food and plenty of milk, with Vichy water. He is not allowed to indulge in alcoholic drinks, in tea or coffee. Smoking (if he has the habit) must be given up for the time. The bowels must be moved gently, and care must be taken that the patient does not become constipated. From what I have seen, however, in connection with the use of the drug, I am inclined to think that it is mildly laxative, as all my patients, while taking it, had one or more movements from the bowels each day.

News of the Week.

THE ACT FOR THE BETTER PRESERVATION OF THE HEALTH OF CHILDREN in institutions has been passed by the Assembly, and now goes to the Governor to receive his signature before becoming a law. This act has been indorsed by the medical societies of both county and State, and its passage has been urged by the Board of Health. THE RECORD has repeatedly urged the great need of this legislation. No more important measure of sanitary reform than this has ever received the attention of our State Legislature.

THE REPORT OF THE NATIONAL BOARD OF HEALTH FOR 1885 has just been issued from the Government press at Washington. It is a volume of three hundred and sixty-three pages, and contains a full history of epidemic diseases during the year in different countries, especially of cholera and small-pox, and the preventive measures that have been adopted in different localities, besides other matters of interest to the profession. Physicians can now secure copies through their representatives in Congress, by writing them personally.

THE PRESIDENT AND ANATOMICAL STUDY.—The daily papers report from Washington that the Senate took up last week the President's veto of the bill "To Provide for the Promotion of Anatomical Science and to Prevent the Desecration of Graves." The bill relates to the District of Columbia, and provides that the unclaimed bodies of deceased paupers, now required by law to be buried at the public expense, might be turned over to the medical colleges of the District of Columbia. The President declined to approve the bill, on the ground that certain of its provisions were indefinite and did not supply sufficient safeguards. After a short debate the Senate refused to pass the bill over the President's veto—yeas 6, nays 48.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 8, 1886.

AMERICAN MEDICAL ASSOCIATION.

WE learn from our St. Louis despatches that the American Medical Association voted to leave the present Executive Committee of the International Congress undisturbed in its work. This Committee has elected Dr. N. S. Davis President of the Congress, and Dr. J. B. Hamilton Secretary-General.

There was no opposition made to these changes or to the adoption of the present policy. The much dreaded descent of Philadelphia's delegates upon the Association did not occur. All was harmony and smiles.

The attendance at the meeting was fairly good, but naturally was made up almost entirely of men from the West and Southwest. That part of our great country is determined to hold an international congress which shall be truly representative.

A MONUMENT TO THE LATE DR. AUSTIN FLINT.

WE believe it wise and just to create memorials of those great physicians whose work has left an impress upon our history. A monument is to be erected to the memory of Dr. Marion Sims and of Dr. Rush. What more appropriate than that the name of Austin Flint, Sr., receive the same recognition from the profession. A movement to secure a fund for the erection of a suitable monument would meet a hearty support from all American physicians.

LAPAROTOMY IN ABDOMINAL WOUNDS.

WE do not know whether or not *The Lancet* is trying to poke fun at some of our eminent professors. If not, it shows that it possesses a remarkably chaotic notion of American surgical work. In a recent elaborate leader upon the "treatment of perforating wounds of the abdomen," it says that "the most important result" of the labors "of American surgeons in this line, since the death of Garfield, is a paper lately read by Professor F. S. Dennis, of this city, on the subject." It is rather too bad to load down Dr. Dennis with such a compliment. It is very well known to American surgeons that it was the cases of Dr. William T. Bull, and subsequently those of Dr. J. B. Hamilton, and others, which especially turned the attention in this country to laparotomy in abdominal wounds. This Dr. Dennis himself acknowledges, in his very thorough and creditable article.

Reports of Societies.

American Medical Association.

Thirty-seventh Annual Meeting, held in St. Louis, Mo., May 4, 5, 6, and 7, 1886.

(By Telegraph to THE MEDICAL RECORD.)

TUESDAY, MAY 4TH—FIRST DAY.

THE Association met at the Exposition Building, and was called to order at 11 A.M., by Dr. Le Grand Atwood, of St. Louis, Chairman of the Committee of Arrangements.

DR. ATWOOD introduced Dr. Brodie, President. Prayer was offered by REV. MONTGOMERY SCHUYLER, D.D.

THE ADDRESS OF WELCOME

was given by HON. D. R. FRANCIS, Mayor of St. Louis.

DR. ATWOOD welcomed the Association on behalf of the medical profession of St. Louis. The ex-Presidents were invited to take seats upon the platform, and Drs. N. S. Davis, of Chicago; J. M. Toner, of Washington; T. G. Richardson, of New Orleans, and D. Yandell, of Louisville, were present.

Dr. Atwood then announced the programme for the entire meeting, with entertainments numerous and inviting. He also announced the presentation of

PROTESTS AGAINST DELEGATES

from the following organizations: Philadelphia County Medical Society; Davidson County, Tenn.; the Tri-State Medical Society, the Mississippi Valley Medical Association, the Tennessee State Medical Society. All these were referred to the Judicial Council.

The following gentlemen were elected

MEMBERS BY INVITATION:

Colonel Manfred Johnson, of McHenry, Ill.; Drs. William W. Morrison, of St. Louis; H. J. McKellops, of St. Louis, W. H. Atkinson, of New York.

DR. WILLIAM BRODIE, of Detroit, Mich., then delivered

THE PRESIDENT'S ADDRESS,

in which, after referring to the facts that no epidemic disease had invaded the country during the last year, that a general state of health had been given to the members, then made special reference to the inroads made among our ranks by the removal by death of Drs. Bowling, John L. Atlee, and Austin Flint, of whom he gave brief biographical sketches. From this he passed to a sketch of the history of the organization of the Association, beginning with 1846, when it was conceived by Dr. Hayes, of Philadelphia; special reference was made to the influence of the Association on the question of the elevation of the standard of medical education. The influence of the Code, as sustained by the Association, was dwelt upon, and the chief interest in this part of the address centred in the statement that the movement in the State of New York against it was due chiefly to financial considerations.

Dr. Brodie then referred by title to the papers which had been read before the Association, and which had made a healthy impression upon the mind of the profession.

He regarded the Association as no pent-up Utica, but as sufficiently broad to meet all the necessities of the profession, through its Sections, and, therefore, that additional national associations were unnecessary. He favored the adoption of resolutions sustaining the National Board of Health.

He recommended the abolition of the metric system from the "Transactions" of the Association. He recommended the formation of a Section on Dermatology and Syphilis, also that the secretaries of Sections be permanent officers, subject to removal in the wisdom of the Section. He spoke of the success of the *Journal*, and directed attention to the by-laws, which make every paper received by the Association its exclusive property, and said that it was improper to give copies to outsiders; but that if medical journals were sufficiently enterprising to employ competent men to take notes from which abstracts were to be made, while the papers were being read, no obstacle should be thrown in the way. Practically, there was no difference between a patented and a proprietary medicine, and whoever lent his name to the support of either should be disciplined in local societies.

With regard to the question of establishing branches, after the manner of the British Medical Association, he recommended that the subject be referred to a committee for report.

CONCERNING THE INTERNATIONAL MEDICAL CONGRESS,

all that remained to be done was for the Association to adopt the report of the Committee, which would soon be made, and thus relieve itself of all further responsibility in the matter.

He entered into a history of the Congress, and closed with an expression of the belief that the general sentiment of the profession was in favor of adopting the report of the Committee, and when adopted that personal feeling should yield to the common good of the profession.

The address was closed by the President returning to the Association his thanks for the honor it had conferred upon him.

DR. MURPHY, of St. Paul, moved that the thanks of the Association be tendered to Dr. Brodie for his address; that it be referred to the Committee on Publication, and that all its recommendations and special points be referred to the appropriate committees. Carried.

A memorial from the Woman's Christian Temperance Union was introduced, and referred to the Committee on State Medicine.

DR. J. S. LYNCH, of Baltimore, from the Committee on

PRELIMINARY ORGANIZATION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS,

reported that the Committee had adopted rules for the organization, had nominated the general officers for the Congress, Local Committee of Arrangements, etc., and respectfully submitted the list.

DR. GIHON, of Washington, moved that the report be accepted and adopted. Unanimously carried.

DR. HENRY SMITH, of Philadelphia, moved a reconsideration of the vote just taken.

DR. GIHON moved that the reconsideration be laid upon the table. Carried.

DR. N. S. DAVIS introduced the following

AMENDMENT TO THE BY-LAWS:

Section two, paragraph three, shall be amended so as to read: "On the second day of each annual meeting, each Section shall nominate its own officers to serve for the next ensuing year; their duties to commence with the close of the annual meeting at which they are nominated, and to continue until their successors are elected." The proposed amendment gave rise to discussion, which was participated in by Drs. Roberts, of Tennessee; Quimby, of New Jersey; Kinloch, of South Carolina; E. Smith, of Michigan; Reynolds, of Kentucky; Murphy, of Wisconsin; Murdock, of Pennsylvania, who spoke against it, and by Dr. Allport of Illinois, who favored the amendment. A rising vote was taken, and the President declared the amendment adopted by a four-fifths vote.

DR. A. REEVES JACKSON, of Chicago, presented a paper on the "Use of the Intra-uterine Stem in Flexion," which was referred to the Section on Diseases of Women.

Dr. William W. Morrison, of St. Louis, presented a paper, which was referred to the Section on Dental and Oral Surgery.

The Association then adjourned, to meet at 10 A.M., May 5th.

Wednesday, May 5th—Second Day.

The Association was called to order by the President, after which prayer was offered by the Rev. M. Rhodes, D.D.

Dr. J. A. Thacher, of Cincinnati, was elected a member by invitation.

The Secretary announced as

THE COMMITTEE ON PRESIDENT'S ADDRESS,

Drs. Murphy, of Wisconsin, Gihon, of the Navy, and Garcelon, of Maine.

The Secretary announced the following

COMMITTEE ON NOMINATIONS.

District of Columbia, J. W. Bulkley; Arkansas, P. O. Hooper; Colorado, J. W. Graham; Connecticut, W. C. Wile; Dakota, J. B. Van Velsor; Florida, T. O. Summers; Georgia, J. W. Bailey; Illinois, John E. Owens; Indiana, Thomas B. Harvey; Iowa, W. Watson; Kansas, C. V. Mottram; Kentucky, W. H. Wathener; Louisiana, Joseph Jones; Maine, Charles E. Webster; Maryland, G. H. Rohe; Massachusetts, E. W. Cushing; Michigan, H. O. Walker; Minnesota, H. H. Kimball; Mississippi, P. W. Rowland; Missouri, G. F. Dudley; New Mexico, W. R. Tipton; Nebraska, W. M. Knapp; New Jersey, E. L. B. Godfrey; New York, E. S. F. Arnold; North Carolina, C. J. Ohagan; Ohio, H. J. Sharp; Pennsylvania, J. C. Lang; Rhode Island, H. R. Storer; South Carolina, R. A. Kinloch; Tennessee, Duncan Eve; Texas, J. F. Y. Payne; Vermont, A. T. Woodward; Virginia, G. B. McCorkle; West Virginia, G. W. Baird; Wisconsin, W. T. Galloway; United States Navy, W. T. Howard; United States Marine Hospital Service, W. Wyman.

Dr. Savage protested against Dr. Eve of Tennessee until the protest against the Tennessee State Medical Society should be reported upon by the Judicial Council.

Dr. Nicholas Senn, of Milwaukee, then delivered

THE ADDRESS OF THE CHAIRMAN OF THE SECTION ON SURGERY AND ANATOMY

in which he directed special attention to

THE PRESENT STATE OF ABDOMINAL SURGERY

by a condensed account of the advancement which had been made within the last few years in that department. He limited his remarks to the consideration of such injuries and lesions of the abdominal organs as were liable to be presented to physicians and general surgeons, aiming particularly to point out

THE LIMITATIONS OF ABDOMINAL OPERATIONS,

and to draw a distinct line between feasibility and justifiability. The first topic was penetrating wounds of the abdomen. The Chairman mentioned the distinctions between punctured and gunshot wounds, and spoke of these as important with reference to diagnosis and treatment.

EXPLORATIVE LAPAROTOMY

had for its objects positive diagnosis, arrest of hemorrhage, restoration of breach of continuity, and removal of extravasations. Dr. Senn prefers the bichloride to carbolic acid, and for uniting divided ends of intestine the Czerny-Lembert suture was the only one which should be used. If any doubt exists concerning the aseptic condition of the peritoneal cavity, a drainage-tube should be inserted. He insisted upon the justifiableness of explorative laparotomy in all doubtful cases.

LAPARO-COLOTOMY

was the next topic, which was followed by that of subcutaneous laceration of intestines. Then came intestinal obstruction. The treatment of this condition by laparotomy was in its infancy, yet sufficient good results had been obtained to stimulate additional efforts in studying its limit of application. The results would improve as soon as physicians recognized the insufficiency of the expectant plan of treatment. Intussusception and enterostenosis followed, and for internal strangulation the rules given by J. Greig Smith were endorsed. These were followed by enterectomy, rupture of the diaphragm, and

TREATMENT OF PERITONITIS BY ABDOMINAL SECTION AND DRAINAGE.

The last had been most successful in cases where the disease had not become diffused, and where the original cause could be removed. Tubercular peritonitis was considered next, and this was followed by gastrotomy, which was of questionable propriety in cases of malignant disease, but was recommended in all cases of non-malignant stricture. Pylorectomy, duodenostomy, and jejunostomy were the last topics considered.

The general conclusion was that abdominal surgery was a legacy of inestimable value, left to us by McDowell, Gross, and Sims, that it should be cherished and studied, and that our knowledge of it should be carefully cultivated.

Dr. H. F. Campbell, of Georgia, ex-President, was invited to take a seat upon the platform.

Dr. S. C. Gordon, of Portland, Me., then delivered

THE ADDRESS OF THE CHAIRMAN OF THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN,

in which he said that nothing remarkable had been done or discovered in these departments during the last year. He could only emphasize matters which had been alluded to, and perhaps weigh inferences which had been made on topics that had been more or less discussed. With reference to attending cases of labor after having made an autopsy or while in attendance upon cases of puerperal fever, etc., he believed that the weight of opinion sustained the view that with proper regimen and absolute cleanliness the daily work of the physician could be safely continued without delay or anxiety. The criminality was in the neglect to take proper precautions, and time might not be an element of safety if these were not observed. Concerning the early signs of pregnancy, he regarded Hegar's test as specially valuable, and one which was applicable early, namely, increase in the anterior curvature of the uterus, with increased elasticity of the uterine wall. For the obstinate vomiting of pregnancy no one measure was of so much value as forcible dilatation of the cervical canal below the internal os. In producing premature labor he recommended the use of the bougie, and when done on account of disproportionate head the eighth month was the most favorable time. He favored the use of a nutritious diet during the parturient period. For ameliorating suffering and shortening the process of labor anæsthetics and the forceps had done much, and had thus prevented many of the injuries formerly incident to the parturient process. Under the judicious use of the forceps vesico-vaginal fistula was diminishing in frequency.

The treatment of the placenta in both normal labor and abortion had been written of so satisfactorily by Pajot that nothing need be added. At full term the placenta was best removed by prompt and gentle traction on the cord, and the earlier after the delivery of the child this was effected the more easily could it be done and the less evils come therefrom. Forcible removal of membranes in abortion was by no means the safer prac-

tice. Remove them if it can be done without much trouble or instrumental interference, otherwise carefully tampon the vagina, and less harm would be done than by resorting to forcible means.

In the department of gynecology only one theme was introduced, and that was the removal of uterine appendages, included under the three operations known as Battey's, Tait's, and Hegar's. After making some remarks, the chairman spoke particularly of hysteria and its relation to diseases of the uterine appendages. This part of this subject was discussed at much length, and accompanied by the histories of illustrative cases in which cure had been effected by the operation. He had removed the uterine appendages in twenty-five cases, and with only one death. The conclusions reached by the speaker were based upon his study of the subject and the favorable results obtained in these cases.

DR. A. L. GIHON, of Washington, chairman of the

RUSH MEMORIAL COMMITTEE,

reported that in obedience to the resolutions adopted by the Association at its last annual meeting, the committee had been instituted by the appointment of one member from each of the States, Territories, and national services represented in the Association, and that the Standing Committee thus organized would proceed at once to collect funds for the erection of a statue of Dr. Benjamin Rush, in the city of Washington, by the members of the profession of medicine in the United States. No further time should be lost by the medical profession in completing its enduring testimonial of one who was not only a great physician and teacher of medicine, philosopher, philanthropist, and accomplished writer, but a fearless patriot and founder of the Republic, a signer of the Declaration of Independence, an officer of the army of the Revolution, and one of the authors of the Federal Constitution.

With this announcement the Rush Memorial Committee will at once undertake the work of obtaining subscriptions, which have been limited by resolution of the Association to one dollar from each member of the profession of medicine in the United States, and receiving such voluntary donations as may be made by persons interested in this great undertaking. The secretary of the committee is George H. Rohe, of Baltimore, and the treasurer, J. M. Toner, of Washington, D. C.

The report was accepted and referred to the Committee on Publication.

DR. I. N. QUIMBY, of New Jersey, moved to take from the table the resolution introduced at the last annual meeting, providing for a new section, namely, one on medical jurisprudence, which was carried.

A motion for its adoption gave rise to discussion by DR. LOGAN, of New Orleans, who thought that the necessity for such a section did not exist, and by DR. CAMPBELL, of Georgia, who originated the idea of establishing this section.

The resolution was adopted.

THE PRESIDENT acknowledged the receipt of a communication from the Texas State Medical Society, extending its congratulations to the Association on its growth and usefulness, which was accepted and ordered entered upon the minutes.

The Association then adjourned to meet on Thursday morning, at ten o'clock.

THURSDAY, MAY 6TH—THIRD DAY.

The Association was called to order by the President.

Prayer was offered by the Rev. R. G. Brant, D.D.

The report of the Committee of Arrangements, including the announcement of receptions and special invitations to excursions and entertainments, was then made.

THE SECRETARY read the following

REPORT OF THE COMMITTEE ON NOMINATIONS,

signed by P. O. Hooper, of Arkansas, Chairman, and William Wile, of Connecticut, Secretary.

President—E. H. Gregory, St. Louis, Mo.

Vice-Presidents—First, B. H. Miller, Stillwater, Minn.; *Second*, W. B. Welch, Arkansas; *Third*, William H. Pancoast, Philadelphia; *Fourth*, William C. Wile, Connecticut.

Permanent Secretary—William B. Atkinson, Philadelphia.

Assistant Secretary—J. Nevins Hyde, Chicago.

Treasurer—Richard J. Dunglison, Philadelphia.

Librarian—C. H. A. Kleinschmidt, Washington, D. C.

Committee on Necrology—J. M. Toner, Washington, D. C., Chairman.

Judicial Council—N. S. Davis, Illinois; H. Brown, Kentucky; William Brodie, Michigan; D. J. Roberts, Tennessee; R. C. Moore, Nebraska; T. A. Foster, Maine; James A. Gray, Georgia.

Trustees of the Journal of the American Medical Association—P. O. Hooper, Arkansas; Alonzo Garcelon, Maine; L. S. McMurtry, Kentucky.

NEXT PLACE OF MEETING, CHICAGO, ILL.,

and the time the first Tuesday in June, 1887.

Chairman of Committee of Arrangements—Charles G. Smith.

OFFICERS OF SECTIONS,

nominated by the Sections and elected by the Association.

Practice of Medicine—J. S. Lynch, Baltimore, Chairman; J. B. Martin, St. Louis, Secretary.

Obstetrics and Diseases of Women—F. M. Johnson, Kansas City, Chairman; W. W. Jaggard, Chicago, Secretary.

Surgery and Anatomy—H. H. Mudd, St. Louis, Chairman; John B. Roberts, Philadelphia, Secretary.

Ophthalmology, Otology, and Laryngology—X. C. Scott, Cleveland, Chairman; J. H. Thompson, Kansas City, Secretary.

Diseases of Children—De Laskie Miller, Chicago, Chairman; W. B. Lawrence, Batesville, Ark., Secretary.

Oral and Dental Surgery—John S. Marshall, Chicago, Chairman; E. S. Talbot, Chicago, Secretary.

State Medicine— —— ——, Chairman; W. Wyman, New York, Secretary.

DR. A. L. GIHON read

THE REPORT OF THE COMMITTEE ON PRESIDENT'S ADDRESS,

signed by John H. Murphy, of St. Paul, Chairman, and by A. Garcelon, of Maine. First, in their opinion, it was proper and desirable that this Association should without delay memorialize Congress in behalf of appointing a scientific commission consisting of three to visit the habitats of yellow fever and determine the value and the claims of Drs. Carmona and Freire, who maintain that they have discovered means of preventing attacks of the disease. Second, the committee were

NOT AGREED CONCERNING THE SUGGESTION OF THE PRESIDENT TO DISPENSE WITH THE USE OF THE METRIC SYSTEM.

Third, the committee heartily approved of the suggestion that the Association should establish a Section on Dermatology and Syphilis. Fourth, the committee endorsed the suggestion of the President that the

SECTIONS SHOULD ELECT THEIR OWN OFFICERS,

and were further of the opinion that the efficiency of the sections would be enhanced by the continuance in office of their respective secretaries. Fifth, the view that the papers read before the Association were its exclusive

property was endorsed. Sixth, that the Association should emphatically

DENOUNCE THE ENDORSEMENT, BY CERTIFICATE, OR ADVERTISEMENT, OR TESTIMONIAL, OR BY ANY FORM WHATSOEVER, OF PROPRIETARY REMEDIES

and appliances, and it should instruct the Judicial Council to take action in all such cases without the formal presentation of charges, and that it should be regarded as a stigma to endorse the use of such proprietary means for the relief and cure of disease. Seventh, that it is desirable that the Association should appoint a committee at this meeting, to consider the advisability of changing the organic law, by establishing branches or by some other plan, and to report at the next annual meeting. Eighth, they earnestly re-echo the wish of the President that the members of the profession will cordially co-operate

TO MAKE THE NEXT INTERNATIONAL MEDICAL CONGRESS ATTRACTIVE

and instructive to the foreign members, sacrificing personal and private piques and disappointments to contribute to that success which has been unconditionally pledged in the invitation extended to the Congress to meet in the United States in 1887.

The report of the committee was adopted.

DR. N. S. DAVIS, Chairman, made the report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Diseases. Also concerning the subject of collective investigation in co-operation with the committee of the British Medical Association. The answers received to blanks already sent out would form the basis of a report at the next annual meeting, and also at the Ninth International Medical Congress.

DR. J. M. KELLER, Chairman, made a special

REPORT ON CREMATION,

in which reasons were given why fire should be substituted for earth burial with the following resolution: "That cremation has become a sanitary necessity in all highly populated cities, and this Association advises its adoption so far as practicable."

The report was also signed by Dr. Logan, of New Orleans.

The report was adopted. The vote by which it was adopted was, on motion by T. A. Reamy, of Cincinnati, reconsidered. The report was then referred to the Section on State Medicine.

DR. JOHN B. ROBERTS, of Philadelphia, moved that the Secretary of the Association be instructed to give official information why the report of the Judicial Council upon his table yesterday was not read at that time.

THE PRESIDENT ruled that it was out of order, because the Judicial Council would soon report.

DR. ROBERTS appealed from the decision of the Chair, and the decision of the President was sustained on a rising vote.

DR. TONER presented the following resolution: "Resolved, That the Association be requested to return to the Judicial Council the report in the case of the Philadelphia County Medical Society, for the purpose of hearing additional testimony, and all parties interested be requested to appear before the Council now in session."

The resolution was adopted.

DR. J. T. WHITTAKER, of Cincinnati, then delivered the

ADDRESS OF THE CHAIRMAN OF THE SECTION ON PRACTICE OF MEDICINE.

There are three planes in the history of medicine: First, the study of the symptoms or appearance of disease; second, the observation of the effects or lesions of disease; third, investigation into the cause of disease. The etiology of acute infections is comprised under the single term, bacteriology, for it has now been demonstrated that pathogenic micro-organisms do exist beyond dispute in distinct and definite entity. The speaker then considered the theory of spontaneous generation, the claims of convertibility of all germs, the question of mutability or immutability, the deviations that do occur, the doctrine that the germ, not the form, is essential, the morphology of bacteria, the destruction of bacteria, the formation of zoöglea, the subject of pure culture-soils, the necessities with reference to temperature and the need of oxygen, the fecundity of micro-organisms, the topic of spores and saprophytes, the mode of invasion and dissemination, the effects upon the tissues, their presence in neoplasms, in giant cells, in the blood. The question of immunity was studied, and also the manner in which micro-organisms, produce the phenomena of disease. The address concluded with a brief reference to the subject of ptomaines.

DR. JOHN H. RAUCH, of Springfield, Ill., then delivered the

ADDRESS OF THE CHAIRMAN OF THE SECTION ON STATE MEDICINE,

in which he first defined State medicine and the branches of science which it included. He agreed with Richardson, who says of the so-called science and art of preventive medicine, "It is not a science, it is not an art, separated necessarily or properly from so-called curative medicine; on the contrary, the study of prevention and cure proceed well together. And he is the most perfect sanitarian and he is the most accomplished and useful physician who knows most, both of the prevention of disease and of the nature and treatment of disease. He who knows, in fact, the before and the after of each striking phenomenon of disease that is presented for his observation." To the above Dr. Rauch would add Dr. H. A. Johnson's conclusion, that it is the duty of the State to protect its citizens from the injuries they may sustain from the practice of incompetent physicians and surgeons, as well as from any other source of danger to public health. State medicine may, therefore, be now defined as the connection of the State with that branch of science which relates to the prevention, cure, or alleviation of the diseases of the human body. It embraces not only all public sanitary measures, but also the practice of medicine in so far as this is regulated by the State.

The first topic considered was the regulation of medical practice, which also and necessarily included the subject of medical education. The author then set forth the authority by which the State assumes to regulate the practice of medicine. It rests in the inherent and plenary power which resides in the State to promote all things helpful to the comfort, welfare, and safety of society. An unbroken line of authorities, from Blackstone down to the most recent decisions of the various Supreme Courts, hold that the police powers of the State are plenary and inalienable, co-extensive with the natural right of self-protection, that their exercise is demanded and justified by the law of overruling necessity, and that broadly they are the foundation of all laws and regulations for the well-being or government of the people, and specifically, of all laws, ordinances, rules, and regulations for the preservation of the health or safety of the community. A sketch of the legislation which has been done in this direction was then given, beginning with 1859, when North Carolina made a law creating a State Board of Medical Examiners. The general drift and tendency of this legislation are toward securing a recognized standard of professional attainments, evidence of which is afforded by the presentation of a diploma, of graduation from some legally chartered institution in good standing, or, in the absence of this, an examination more or less strict in the various fundamental branches of medical science. The exceptions are in the States of Alabama, Mississippi, North Carolina, and Virginia, where the diploma is ignored. A low standard of medical education, and the absence

of uniform legal requirements are responsible almost exclusively for the overcrowding of the profession. It was within bounds to say that the excess of the percentage of new graduates over the percentage of increase of population represents the number of unnecessary recruits to the ranks of the profession every year. Exclusive of the sessions of 1885–86, there were 106,947 physicians in the United States, and there had been an annual increase of over five and one-half per cent., while the population had annually increased in less than two per cent. As a matter of personal interest, he had followed up the careers of 789 out of 1,000 physicians who studied four years and attended three terms before graduating. These, with but few exceptions, were the successful and prominent members of the profession in the different communities in which they reside.

Dr. Rauch reached the following conclusions: First, that the best interests of the public welfare demand the highest attainable standard of educational qualification, skill, and ability among those engaged in the practice of medicine; second, that it is the duty of the State to exercise the inherent plenary power and authority which it possesses for the protection and promotion of the public welfare to secure such standard; third, that uniform State laws, exacting of every one aspiring to practise medicine proof of personal fitness and professional competency in improving the standard of medical education, and in enhancing the dignity and usefulness of the medical profession. Specifically he suggested that the Association should put itself upon record at this meeting as recommending the extension of the period of study to four years, and of attendance upon lectures to three full terms, with ample hospital practice and clinical instruction as the requirements for graduation in medicine. To this end he urged that the Committee on State Medicine be instructed to frame a law for the regulation of the practice of medicine, which law, when endorsed by the Association, shall be the standard with which all existing legislation on this subject should be made to conform as speedily as practicable, and which shall be urged for adoption by those States where no such law now exists.

The second part of the address was on the advances and discoveries in preventive medicine, which referred to boards of health, branches of national service, and to what has been done in this department abroad.

Dr. A. Y. P. Garnett, of Washington, offered the following resolution, which was adopted: "That the delegates to this Association be requested, on returning to their homes, to adopt such means as may to them seem best to call the attention of their respective representatives in the Congress of the United States to the

DESIRABILITY OF MAKING AN APPROPRIATION OF MONEY TO ASSIST IN HEARTILY RECEIVING AND ENTERTAINING THE INTERNATIONAL MEDICAL CONGRESS IN 1887.

The Treasurer's Report was read and accepted, and referred to the Committee on Publication.

The Librarian's Report was read, and contained the recommendation that the sum of $10 be appropriated to subscribe for the "Index Medicus" for 1886. The report was referred to the Committee on Publication, and the recommendation adopted.

The report of the Committee on Publication was made the special order for Friday morning.

Dr. A. L. Gihon, of Washington, offered an amendment providing for a Section on Dermatology and Syphilis. Laid over for one year.

Dr. Gihon offered the following, which was adopted: "That a committee of nine, including the president-elect and the four vice-presidents-elect, be appointed by the Chair to consider various propositions looking toward amendment of the organic law of the Association by establishing branches, or in any other way, if any change may be deemed desirable, and to report at the next annual meeting." The Association then adjourned to meet Friday morning at ten o'clock.

Friday, May 7th—Fourth Day.

The Association was called to order by the President. Prayer was offered by the Rev. W. V. Tudor, D.D.

The Secretary announced the officers of the Section on Medical Jurisprudence: Isaac N. Quimby, Jersey City, Chairman; H. H. Kimball, Minnesota, Secretary.

GENERAL WILLIAM T. SHERMAN

was discovered seated in the audience, and amid tremendous cheering was called to the platform, from which he made a few exceedingly appropriate and complimentary remarks, including the statement that he had seen much of the surgeons of the United States, and believed that the medical profession in America ranks among the highest and in favorable comparison with the physicians and surgeons of the whole civilized world.

Dr. C. K. Mills, of Philadelphia, moved that the order of business be suspended for the purpose of receiving the report of the Judicial Council.

Dr. J. B. Hamilton moved to lay upon the table. Carried.

Dr. J. M. Toner reported from the Board of Trustees of the *Journal*, including the report of the editor, which was read by Dr. Davis. The *Journal* has a total weekly edition of 4,271, of which 3,276 are for members of the Association. There has been a net decrease of expenses. The small increase of subscribers was attributed to the dissatisfaction on the Code caused by the State of New York, and the unfavorable criticisms on the organization of the International Medical Congress. Dr. Davis has consented to remain editor of the *Journal*.

Dr. Garcelon, of the Auditing Committee, reported that the accounts of the Treasurer were correct.

Dr. J. M. Toner reported for the Judicial Council that the delegates from the Tristate Medical Society were not entitled to registration, that the delegates from the Davidson County Medical Society, Tennessee, were entitled to registration, that the protest against the delegates from the Mississippi Valley Medical Association had been dismissed, that the registration of W. W. Dixon had been granted, that the matter of the Philadelphia County Medical Society had been referred back with all the papers to the society from which the delegates came for adjudication.

Dr. Jackson, of Philadelphia, asked the President to rule on the status of the delegates who had registered, and whose dues had been received on the credentials presented.

The President ruled that it was out of order, as the decision of the Council was final.

The report suggested the return of the dues received from the delegates who had registered.

Dr. Eugene Smith, of Detroit, delivered the address of the Chairman of the Section on Ophthalmology, Otology, and Laryngology, in which he gave a brief summary of what had been done in these departments during the last year, making mention of transplantation of the eye, intubation of the larynx, laryngeal photography, etc. The address was brief, concise, and comprehensive.

Dr. W. D. Haggard, of Nashville, delivered the address of the Chairman of the Section on Diseases of Children, which was a plea for the better recognition of the importance of diseases of children.

Dr. John S. Marshall, of Chicago, delivered the address of the Chairman of the Section on Oral and Dental Surgery, which consisted of three parts, read by title: first, "Transplantation of Teeth in Artificial Aveoli;" second, "Sponge Grafting in the Mouth;" third, "Staphylorraphy in Early Infancy."

Dr. J. M. Toner, Chairman, formally presented the report of the Committee on Neurology, which from time

to time had appeared in the *Journal* of the Association.

The Section on State Medicine reported the following resolutions, which were adopted: That the Association reaffirm its utterances on the use and abuse of alcohol, and recommend the study of hygiene in our public schools; that a committee be appointed to consider the subject of cremation, and report at the next annual meeting; that the Association direct the Section on State Medicine, to prepare and report a form of law regulating the condition requisite to beginning the study of medicine, the requirements of graduation, etc.

The Committee of Arrangements were instructed to place the report of the Committee on Publication on the programme for the first day's proceedings at the next annual meeting.

Dr. John B. Roberts, of Philadelphia, offered a series of resolutions, asking the President and Secretary for information as to why the report of the Judicial Council, laid upon the Secretary's table yesterday and seating the delegates for the Philadelphia County Medical Society, was not read.

On motion by Dr. Octerlony, of Louisville, they were laid upon the table.

The President appointed a committee of nine, consisting of the President, President-elect, four Vice-Presidents-elect, and Drs. N. S. Davis, A. L. Gihon, and J. M. Toner, to report at the next annual meeting with reference to change in the organic law of the Association establishing branches, etc.

DELEGATES TO THE BRITISH MEDICAL ASSOCIATION:

N. S. Davis, Chicago; B. W. Dawson, Cincinnati; D. McLean, Ann Arbor; E. Smith and W. Brodie, Detroit; B. A. Watson, Jersey City; W. T. Briggs, Nashville; W. H. Pancoast and J. V. Shoemaker, Philadelphia; L. H. Montgomery, Chicago; E. Cutter, New York; G. C. Gordon, Portland, Me.; J. C. Cattell, Ontario Medical Association; H. O. Walker, Detroit.

Delegate to Canada Medical Association, W. Brodie, of Detroit.

Dr. John B. Roberts resigned as Secretary of the Section on Surgery and Anatomy. Accepted. The Chairman of the Section was authorized to fill the vacancy.

Dr. Baldwin, of Illinois, moved that the resolution introduced by Dr. Roberts reflecting upon the President and Secretary be expunged from the records. Adopted under the previous question.

Dr. Jackson, of Philadelphia, offered a

PROTEST AGAINST THE ACTION OF THE JUDICIAL COUNCIL, BY WHICH THE PHILADELPHIA COUNTY MEDICAL SOCIETY HAD BEEN DENIED REPRESENTATION AT THIS MEETING,

signed by Drs. C. K. Mills, J. B. Roberts, and others. Laid upon the table.

Drs. J. B. Johnson, N. S. Davis, and W. M. McPheeters were appointed a committee to conduct Dr. E. H. Gregory, President-elect, to the chair.

Drs. N. S. Davis and A. Garcelon introduced a general resolution of thanks to all in St. Louis for the cordial reception and most hospitable entertainment of the Association.

Dr. Keller offered an amendment to the by-laws that officers of sections be nominated by the Nominating Committee. Laid over until next year.

Complimentary and appropriate remarks were made by President-elect Gregory, and by President Brodie, and the Association adjourned to meet in Chicago on the first Tuesday in June, 1887.

Nineteen Russians and One Wolf.—It quite passes American comprehension to understand how one mad wolf was able, within forty-eight hours, to bite nineteen adult Russians, as is reported in *Le Progrès Médicale*. The wolves of Russia, when mad, must be very mad indeed.

SECTION ON PRACTICE OF MEDICINE.

Dr. J. F. Whittaker, of Ohio, Chairman; Dr. B. L. Coleman, of Kentucky, Secretary.

Tuesday, May 4th—First Day.

The first paper was

ETIOLOGY OF DISEASE,

by Albert C. Haven, of Illinois, in which the author reached the conclusion that it was an uncertain quantity.

The next paper, by Dr. Frederick N. Huston, of Rockland, Me., was entitled

THE EFFECTS OF CERTAIN PHILOSOPHICAL PRINCIPLES THAT HAVE NOT BEEN NOTICED, IN AID OF THE CIRCULATION OF THE BLOOD.

The writer assumed that the circulation of the blood is not so well understood that light would not be acceptable. He proposed to treat the subject in the light of certain philosophic principles self evident facts that need no demonstration from experiment. He took for his text the subject of cohesion, and quoted from a statement in "Reference Handbook of the Medical Sciences," vol. i., page 565, "Blood has greater cohesion than water," and stated that viscidity is a quality of all liquids, expressed in different degrees. It is greater in blood than water. While cohesion amounts to the same thing as a physical force, holding together particles of matter, viscidity and cohesion resemble each other. He claims there is no difference to the cohesion of liquids. It is a peculiar property whereby they resemble solids when acted upon by excentric forces. The venous system is compared to a cone, with apex at the heart and its base represented by the periphery of the body. It might also be said that its base is connected with that of another cone similarly representing the arterial system.

He stated that each contraction of the ventricles is a force exerted with the same, if not greater, effect on the venous circulation, as on the arterial through cohesion. Whatever may be the effect of valves in the inferior veins toward relieving gravity on the lower vessels, it must be remembered there is another column of blood without valves pressing downward with all the force of gravity as well as that of the arterial wave. If these lower vessels were compelled to sustain a pressure it is easy to see what the effect would be. Fortunately the force acting throughout the venous cone, reaching even the arterial wave, so far unloads the inferior vessels that the effect of gravity, during the interval this force is at rest, can do no more than fill these vessels to the normal tension.

The paper was a very exhaustive and scientific one, and in addition referred to topics such as the explanation of the untoward effects of hypodermic injections, syncope from chloroform, the action of nitrite of amyl, etc.

Dr. Brenner, of St. Louis, read a paper on

ESSENTIAL VERTIGO.

It was discussed by Dr. A. B. Arnold, of Baltimore, and others.

Dr. O. T. Shultz, of Mt. Vernon, Ind., read a paper on

THE USE OF SO-CALLED ANTIPYRETIC DOSES OF QUININE IN TYPHOID PNEUMONIA.

The paper was lengthy and exhaustive.

Wednesday, May 5th—Second Day.

The first paper was read by Dr. S. S. Laws, of Columbia, Mo., President of the Missouri University, on

THE LIFE AND LABORS OF LOUIS PASTEUR.

The labors of the great scientist were sketched with reference to their bearings upon the discovery of the true nature and the treatment of diseases in plants and animals. The diseases in the vegetable kingdom, as in the

case of vinegar, wine, beer, the potato, etc., have been traced to living organisms as their causes; the diseases of the silkworm, of fowls, of swine, of sheep, of cattle, and of other animals, which diseases have various technical names, have in like manner been traced to microbes, or microscopic living beings, and naturally enough this line of investigation and discovery has penetrated the dark and mysterious domain of human diseases. Infinitely minute living organisms, as the actual cause of some of these diseases, formerly attributed to the spontaneous peccancy of the humors of the body, have been certainly discovered, and also the rational means of combating them. The views presented were guarded against exaggeration and misconception, and it was not claimed that the conquest is completed, but that it is valiantly begun, and that, in the following strong language of Professor Tyndall, in a letter to M. Pasteur, to wit, "for the first time in the history of science we are enabled to entertain the sure and certain hope that, in relation to epidemic disease, medicine will soon be delivered from empiricism and placed upon a real scientific basis. When this great day shall come, humanity will recognize that it is to you (Pasteur) the greatest part of its gratitude is due."

Dr. Philip Zenner, of Cincinnati, read a paper entitled,

Value of the Knee Phenomenon in the Diagnosis of Diseases of the Nervous System.

This phenomenon has been known to the profession since the simultaneous publications of Erb and Westphal in 1875. Its clinical significance is attached to the fact, pointed out by Westphal in his earliest publication, that it is present in health and is absent in cases of locomotor ataxia, usually disappearing at the very commencement of the disease. It may also be absent in anterior poliomyelitis and neuritis, when the lumbar portion of the spinal cord or its nerves are the seat of disease. It may also be absent in many cases of diabetes mellitus, and is sometimes temporarily abolished in chronic alcoholism, and after attacks of diphtheria.

Various examinations have been made to determine whether it is absent in health. Berger missed it in 22 out of 1,409 healthy men, Eulenberg in 4.8 per cent. of healthy adults and five per cent. of children, Bloch in 5 out of 694 school children; Polizans examined 2,404 school children, at first missed it in 6, but finally obtained it in every one. Jendassik examined 1,000 persons chiefly adults, not suffering with nervous diseases and elicited the phenomenon in all but one, a case of diabetes mellitus.

The author then gave his own observations, which had embraced the examination of 2,106 persons, all of whom were adults, and chiefly males. Of these 1,174 were inmates of various insane asylums; the others, excepting 106 in the medical wards of the city hospital, were mostly in apparent health. Of this number the knee phenomenon was abolished in 28, of whom 5 had fully developed locomotor ataxia, 12 were in the earlier stages of the same disease, while 11 manifested no other symptom of disease of the cord.

The cases of insanity were treated of separately, because Westphal had shown that, in such cases, the absence of this phenomenon, even when there are no other symptoms, is strong presumptive evidence of disease of the posterior columns of the cord, and because of its special value in diagnosing the form of insanity. Of the 28 cases of insanity with abolished knee phenomenon, 10 were cases of general paralysis, and in 2 it was doubtful whether there was general paralysis or not, notwithstanding the fact that there were at that time very few cases of general paralysis in the asylum. In many cases of general paralysis and locomotor ataxia we have reflexing rigidity of the pupils, they do not respond to light. In 4,000 insane, 492 had rigidity of the pupils, eighty-five per cent. of whom had general paralysis. Nine out of ten of the essayist's cases of general paralysis had pupil symptoms, one out of the two doubtful cases, and only two out of the eleven other cases. Absence of knee phenomenon and presence of refractory rigidity of the pupils are of great assistance in diagnosing obscure cases.

In 932 sane persons the knee phenomenon was found in 5. The fact that the phenomenon is absent in other pathological conditions does not lessen its significance in locomotor ataxia, for the other conditions can be easily differentiated. In the author's experience it is not so often absent in diabetes mellitus as some observers believe. Rosenstein missed it in 6 out of 9 cases and Bouchard in 19 out of 66; the author found it present in all. He did not think it often present in chronic alcoholism. He had examined quite a number of cases in the city hospital, and 404 men at the Workhouse, who were many of them hard drinkers. Strychnia restores it in chronic alcoholism, but does not in locomotor ataxia.

The author then spoke of the method of eliciting the knee-jerk. After careless examinations it is often said to be absent when it can be readily elicited. The ordinary method will answer in most cases, but in some it will not. Should it fail, the person should sit upon a table, with the legs dangling and the knees entirely exposed, and the ligament be struck in every part. In a small number there will still be failure by this method. For such cases Jendrassik has recently pointed out another method. The patient is seated as above, and, while the examiner strikes upon the ligament, he is requested to link the bent fingers with one another, and pull as hard as he can. This augments the muscular tonus and the response increases. This method has enabled the author to find it in a number of cases which did not respond before. So great was the difference that the author thought he might find it in some cases of locomotor ataxia, but failed. In some of his cases the response, though present, was so slight that it might be pathological.

Is the phenomenon always absent in locomotor ataxia? Westphal says yes, in typical cases, but present whenever the disease affects the posterior columns in the lumbar region, which occurs usually at an early period. Later writers have reported cases with post-mortems where it was present. This, however, is so rare as to be of little significance. The essayist had never seen it absent but once, and in this case the appearance was rather that of a diffuse myelitis than of a systemic disease of the cord. He had a number of cases under observation at present where the phenomenon was abolished on one side and difficult to elicit, but these were all still in the earlier stages of the disease.

The paper was discussed by Drs. A. B. Arnold, of Maryland, X. C. Scott, of Ohio, and Dr. Colhet, of Missouri.

Dr. Joseph Jones, of New Orleans, read a paper on

Some Practical Observations on the Results of Medical Treatment in the Charity Hospital, New Orleans, during the Years between 1869 and 1886.

The paper referred largely to malarial fever and its treatment.

Dr. A. F. Potter, of Boston, read a paper on "Potassium Chloride," in which he spoke of its value in pelvic cellulitis in doses of ten grains every three or four hours. In epilepsy he has found it even more valuable than the bromide of potassium, and gives it three or four times daily. He had never used it in goitre.

Dr. John A. Octerlony, of Louisville, Ky., read a paper on the "Clinical Aspects of Renal Cancer," which was well illustrated with charts, and referred particularly to the differential diagnosis between this and other diseases with similar features.

The Section adjourned to meet on Thursday.

THURSDAY, MAY 6TH—THIRD DAY.

DR. HERBERT F. WILLIAMS, of New York, read a paper on

PNEUMATIC DIFFERENTIATION,

and gave demonstrations with the pneumatic cabinet.

The discussion was opened by E. F. Ingals, of Chicago, and continued by the Chairman and others.

DR. F. H. PATTEN, of Dayton, O., read a paper on

PNEUMONIA IN THE OLD.

This was followed by one on

THE ETIOLOGY OF DENGUE,

by J. W. MCLAUGHLIN, M.D., of Austin, Texas.

The epidemic of dengue which prevailed throughout the State of Texas during the fall of 1885 was unusual in many respects; for example, first, in its universality; second, in the violence of its symptoms; third, in its manifest contagiousness; fourth, in its protracted convalescence of its subjects; fifth, in its hemorrhagic tendencies; and, sixth, in its numerous sequelæ. Many cases where direct contagion was the cause came under the observation of the writer. There can be no doubt that by this means it was carried and spread from one neighborhood to another, and from the city to the country by infected individuals. It would seem from the peculiar clinical history of dengue and its epidemic character, that it is a specific disease, that micro-organisms are the source of its infection, and that these micro-organisms find in the blood a suitable environment for their growth and multiplication. In order to determine the correctness of this theory, and, if possible, to obtain information with reference to the etiology and pathology of this malady, especially as medical literature is silent upon these matters, the following investigations were made: First, blood was obtained from living subjects during the various stages of dengue, and microscopically examined directly, *i.e.*, without the addition of chemical reagents. Second, after treatment with such agents, viz., glacial acetic acid with and without dilution, caustic potash in strong and weak solutions, chloroform, and ether, third, the blood was dried upon sterilized cover-glasses and subjected to the action of the various staining agents. Fourth, dengue, blood obtained from living subjects was introduced into test-tubes containing sterilized culture-media prepared for this purpose; these were closed with sterilized cotton plugs and kept at a temperature of 100° F. for the growth and multiplication of those organisms which were contained in the blood. Fifth, blood was drawn directly from the veins of a dengue subject into a series of sterilized glass bulbs, united by a capillary glass tube. This was done in such a manner as to effectually guard against the introduction of all foreign germs. The series of bulbs were then put into an incubator and kept at 100° F. Sixth, the matters vomited and urine passed by dengue subjects were microscopically examined. The following are the results obtained: In the blood examined directly or after treatment with the chemical agents named, stained or unstained, he found, often in great numbers, in the cell elements as well as in the plasma, micrococci spherical in shape and red or pinkish in color, often surrounded by gelatinous capsules. He always succeeded in growing in culture-tubes, upon the surface of the jelly, micrococci, and no other form of bacteria, which in size, color, shape, and behavior are indentical with those seen in fresh dengue blood. The blood contained in the series of glass bulbs was examined, the first bulb at the expiration of six weeks, the other after three months. He found the blood to contain a pure culture of micrococci which in all respects were identical with those previously seen in fresh blood and grown upon culture-jelly. These organisms were also seen in the matters vomited in certain malignant cases of dengue which were characterized by much gastric catarrh, and also in the urine passed. In a very few cases he found this to contain casts of the uriniferous tubes, which were composed of these organisms held together by their gelatinous envelopes, at the end of these casts, where they were less firmly attached or cemented together. The shape, size, and color of the micro-organisms were found to correspond with those seen in the blood or grown upon the jelly. The blood used in these examinations was obtained from many different individuals at different times and places and during the various stages of dengue. It would seem evident that if spherical bodies, uniform in size, shape, color, and behavior are found in the blood in certain pathological conditions, and that these bodies can resist the destructive action of glacial acetic acid, caustic potash, chloroform, and ether, that these must be micrococci, inasmuch as all the blood-cells and granules are destroyed by these chemicals.

Sterilized cover-glasses upon which dengue blood had been dried were subjected to the action of many aniline dyes, to obtain, if possible, one for which these micrococci have an elective affinity. After many trials and failures he succeeded in staining the organisms with methyl blue in a solution of caustic potash in a permanent manner. These micro-organisms were uniformly found in the blood of about forty cases of dengue, the number from which blood was obtained. No doubt they would have been found in other cases if looked for. In every instance tubes inoculated showed, upon the surface of the jelly at the point of inoculation, a white spot elevated above the surface. When a small amount of this was examined under a high power, it showed invariably a pure culture of micrococci which in every respect are identical with those found in dengue blood. The uniformity of these results in growing pure cultures of dengue micrococci certainly indicates that the matter of inoculation came from a common source, *i.e.*, the blood.

A paper on "Meconeuropathia," by C. H. Hughes, of St. Louis, was read by title, as was one on "Laws Determining Sex," by Robert Funkhouser, of St. Louis.

SECTION IN SURGERY.

TUESDAY, MAY 4TH—FIRST DAY.

NICHOLAS SENN, OF MILWAUKEE, CHAIRMAN; H. H. MUDD, OF ST. LOUIS, SECRETARY.

The Secretary read a paper sent by WILLIAM M. MASTIN, of Mobile, on

VENOUS BLOOD TUMORS OF THE CRANIUM IN COMMUNICATION WITH THE INTRACRANIAL VENOUS CIRCULATION, ESPECIALLY THE SINUSES OF THE DURA MATER.

It contained the following propositions: Cranial venous blood tumors are to be classified into three types, 1, congenital, spontaneous, and traumatic; 2, these types are divided into the diffuse, the venous, or the vascular, in which the tumor is formed at the expense of the coats of the veins; 3, the venous type is most common, and of this type the diffuse is the rarest of all varieties; 4, the diffused variety is especially characteristic of the spontaneous and also of traumatic bruises. The venous type occurs most frequently congenitally. General surgical interference is not called for. When, however, operative interference is deemed proper, it may be for either the diffused or the varix. Exposure and ligation of the pedicle, or, if necessary, delegation in its course, the trephine being employed only to furnish the required space. Lateral ligation and section were preferred to complete ligature. For tumors composed of varicose vessels the electro-puncture or strangulation of the veins may be adopted, with preference for the former.

DR. MOSES GUNN, of Chicago, read a paper on

THE VALUE OF AN ATTEMPT AT ENUCLEATION IN A NEUROMA

which seems to demand resection of the nerve. The case was one in which a neoplasm involved the ulnar

nerve. Enucleation was followed by relief from pain, but the symptoms all returned at the end of four months.

Dr. B. A. Watson, of Jersey City, read a paper on spindle-celled sarcomas, and reported a case and presented the specimen.

Dr. Joseph Ransohoff, of Cincinnati, presented a paper on the

TREATMENT OF THORACIC ANEURISM

by the introduction of wire, with the report of a case.

Dr. W. P. Verity, of Chicago, was announced to exhibit

A SURGICAL ENGINE.

The Section then adjourned to meet Wednesday.

Wednesday, May 5th—Second Day.

Dr. Maclean, of Michigan, read a volunteer paper giving an account of

A SUCCESSFUL CASE OF AMPUTATION AT HIP-JOINT.

Drs. Logan, of Louisiana, Dawson, of Ohio, and Staples, of Minnesota, reported somewhat similar cases, and discussed to some extent the comparative indications for amputation and laparotomy.

Dr. J. McF. Gaston, of Georgia, read the next paper, entitled

SURGICAL RELATIONS OF THE ILEOCÆCAL REGION.

He designed by his title to include all the conditions calling for surgical interference in the ileocæcal region. There are two classes of such troubles, viz., those in which there is a degeneration of tissue in immediate relation with the cæcum and colon, which may result in malignant growths pressing upon and interfering with the function of the intestine, or there may be suppurative inflammation forming sinuses in all directions, and bursting through, either externally or into the bowel, may set up a long train of sequelæ by extension of inflammation to the adjacent tissues, or septic influences may be introduced and greatly aggravate the trouble, especially in cases of women. Sutton, in *The Lancet*, advanced the view that inflammation is not essentially pathological, but is reparative, and only becomes pathological when it is excessive. It may be simple or specific, and bacteria are destroyed by inflammatory action according to his view. Modern opinions in regard to laparotomy are far different from what they were a few years ago. In Germany surgical procedures in cases of ileocæcal trouble are generally too long delayed, still he holds that there can hardly be a grosser error than to adopt the position that such affection always demands surgical operation. Statistics show that less than ten per cent. of cases with invagination recover. He favors exploratory incision, and active procedures for the relief of obstruction, etc. He summed up his results with the following conclusions, viz.: 1, Certain forms of such trouble are sometimes spontaneously corrected; 2, in cases of extra-peritoneal inflammation and suppuration, puncture and incise; 3, in case of disorders involving the peritoneum, incise and explore; 4, when there is a stenosis or a malignant growth, ileocolostomy is to be performed; 5, gangrenous portions should be resected; 6, operative measures, if demanded at all in the ileocæcal region, should not be delayed, but performed at once.

THE COMMITTEE ON HONORABLE MENTION,

consisting of Drs. Logan, of New Orleans, Gunn, of Chicago, and Staples, of Minnesota, appointed by the Chairman on Tuesday, reported that only one paper had been submitted, and that, in the opinion of the Committee, did not merit the mention.

A discussion on the proper

TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN

was introduced by Dr. Henry H. Smith, of Philadelphia, who was followed by Drs. B. A. Watson, of Jersey City, and E. H. Gregory, of St. Louis, the appointed disputants. The volunteers were Drs. H. O. Marcy, of Boston, John B. Hamilton, of the Marine Hospital Service, Byrn, of Illinois, Kinloch, of South Carolina, and Jennings, of Arkansas, the discussion being formally closed by Dr. Gaston. Drs. Watson, Marcy, Hamilton, and Kinloch favored the aggressive mode of treatment—exploratory incision, arrest of hemorrhage, and careful aseptic cleansing and closing of the wound.

Dr. Gregory strongly urged a more conservative policy, and said never open the belly unless it is evident that some of the viscera have been wounded. The condition of the patient must determine the question of operation. Do not operate until it is demanded. He regards exploratory incision as justifiable only in extreme cases, not simply to find out what is the matter. If the operation were not so easy of performance, attended with so little immediate danger, and so brilliant in the impression produced, he thought that laparotomies would be made much less frequently than they have been of late years. He favors Listerism on account of rigid cleanliness—accepted methods without committing himself to the theories of antiseptic surgery.

Dr. Hamilton related some interesting cases, tending to show the advantage of immediate interference in all cases of penetrating abdominal wounds. He recognized the danger of laparotomy, and thought we should not expect as good results in treating gunshot wounds as after simple laparotomies, but he urged immediate interference, or as soon as possible after receipt of wound.

Dr. Jennings related a very interesting case, where the whole intestines gushed out through a wound of the abdominal wall, were washed with simple saline solution, a rent three-quarters of an inch long was closed with five interrupted sutures, and the patient made a complete recovery, and lived for years after.

Dr. Edmund A. Andrews, of Chicago, read a paper on

DIGITAL EXPLORATION OF LUMBAR ABSCESS,

in which he advocated opening such abscesses freely, so as to allow the introduction of the finger for the purpose of thorough exploration. His practice is to make counter openings and wash out the abscesses and sinuses with antiseptic solutions. He read only two cases of the nine which he had reported in his paper. Some cases of lumbar abscess recover after simple aspiration and washing out the cavity with antiseptic solutions. If this fails or is inapplicable by reason of the abscess having been already opened when coming under treatment, free incision and washing out with antiseptic solution should be resorted to at once. Modern treatment, aspiration, and antiseptic injections had exploded the old notion that it is a dangerous affair to open and evacuate the pus from such abscesses.

Dr. Byrd, of Illinois, said he heartily agreed with the views of Dr. Andrews. He desired simply to call attention to what he considered the very

BEST ANTISEPTIC INJECTION,

an agent which he had been using for some months with great satisfaction, viz., the peroxide of hydrogen, which would destroy and remove every particle of pus. It would also give the advantage of hyperdistention by the formation of gas in the cavities.

Dr. C. H. Finger, of Illinois, regards lumbar abscesses as simply symptoms, and does not think that simple evacuation of the contents can be regarded as good surgical treatment. It should be the aim of the surgeon to remove the cause.

Dr. E. R. Lewis, of Missouri, asked what means there are for early diagnosis of these cases.

Dr. Hamilton, of Ohio, said that in many years of practice and teaching he had found no other so common evidence of incompetency and inefficiency among practitioners as the frequent failure to recognize the presence of lumbar abscesses. He related two very remarkable cases illustrating such oversight on the part of practitioners generally regarded as well posted in their profession.

Dr. Ransohoff thought that the same charge of incompetency could not be truthfully brought against the practitioners of Southern Ohio as Dr. Hamilton had made against those of Central Ohio. He emphasized the statement of Dr. Finger that lumbar abscesses are only symptoms, and holds that unless the cause can be removed free incision and drainage of lumbar abscess is bad treatment.

Dr. Geiger said his experience with these cases had been unfortunate. He considered it a matter of great importance that the after-treatment of these cases should be in the hands of competent surgeons.

Dr. Ross, of Pennsylvania, here related a case of erroneous diagnosis of purulent accumulation in the chest, which had no apparent connection with the subject under discussion.

Dr. Andrews, in closing the discussion, said there was no way of diagnosticating these cases in the very commencement. When the pus has formed to such a degree as to cause pressure there will be some elevation of temperature, and as soon as there is reasonable probability of the presence of pus it may be determined positively by the use of the aspirator. He does not favor the use of the knife until there is some physical evidence of the presence of pus. Incision is only a means to an end, rendering possible fuller exploration and the adoption of means of treatment which would be otherwise impracticable.

Dr. Byrd, of Illinois, then read a paper, prepared by his assistant, recounting a case of

INTRAVENOUS INJECTION OF SALINE SOLUTION

for collapse from hemorrhage, in which he injected eighty ounces of a saline solution into a vein of the arm.

The Section adjourned to meet at 2 P.M. Thursday.

THURSDAY, MAY 6TH—THIRD DAY.

Dr. R. Harvey Reed, of Mansfield, O., read a paper on

SOME COMPLICATIONS IN STRANGULATED HERNIA.

He reported a case in which a small obscure femoral hernia was complicated with hydrocele, an enlarged and adherent testicle, and a large, reducible, inguinal hernia, which was supposed to be the chief source of the difficulty. Another case was one operated upon by Dr. Senn, who had furnished him an account of the case. The omentum was adhered to the whole inner surface of the sac, and in operation it was necessary to remove the whole mass, and unite the edges of the ring; these were freshened and closely sutured. The result was complete cure. Another case was one in which a patient made unnecessary muscular operation while the wound was yet ununited, with the result of a new protrusion and a rupture of the protruding bowel. The parts were thoroughly cleansed, the rupture of the bowel was closely sutured, and the patient made a complete recovery.

Dr. Henry O. Marcy's paper was

A PLEA FOR RADICAL OPERATION FOR THE CURE OF HERNIA.

His operation consists in the ablation of the sac, freshening the pillars, and suturing them with chromicized kangaroo-tendon sutures. He thinks this operation far superior to those which have been advocated so zealously of late years by Dr. Warren, of Boston, and others, viz., by injection of an astringent liquid; this method he objects to, as being essentially blind surgery. He thinks operative interference of this nature is demanded wherever there is strangulation, where there is failure of the instrument (truss) to retain the hernia, and in cases of infantile hernia, which is with difficulty controlled by the truss, he has found the kangaroo-tendon sutures exceedingly valuable and satisfactory. He was the first to introduce this material to the profession.

In discussing these papers Dr. Hoadley reported an operation in which he had taken pains to ligate the freshened edges of the pillars as closely as possible; he was disposed to lay considerable stress upon the importance of this close suturing in order to secure perfection.

Dr. Quimby urged the importance of early operation. He thought operation should be performed within twelve hours after indications are apparent.

Dr. Smith, of Iowa, used to be very timid of removing omentum, but now has no hesitation in doing this when necessary.

At this point a committee of three, consisting of Drs. Gunn, of Chicago, Dawson, of Cincinnati, and Barton, of Philadelphia, were appointed to examine a case supposed to be of surgical interest. It proved to be the case of a young man, who, some months ago, was thrown upon the pommel of his saddle. Since that time he has been subject to pains in the abdomen, not so severe as to necessitate a discontinuance of labor, but at intervals of about a month enough to occasion severe suffering. His physician, in examining him recently, had discovered an adventitious growth at upper inner part of the thigh, which it was thought might have some relation to his pain. The committee, after examination, were agreed that the hard mass which had developed there was the result of an ossification of about two inches of the tendon of the adductor magnus muscle.

Dr. C. A. Todd, of St. Louis, then read a paper which gave the result of some careful studies in the dissecting-room, showing how the iliac arteries act as valves upon the venous flow into the inferior vena cava.

The paper was brief, and was passed without discussion.

Dr. Charles Fenger, of Chicago, then read a paper on osteoplastic resection of the foot, excision of the heel, as devised by Whadirniroff and Miculicz. Only a portion of the paper was read, and Dr. Fenger illustrated by a large drawing, by a plaster cast, and by the bones of a normal skeleton, the method of performing the operation as devised by the Russian and German surgeons independently, exsecting the calcaneum and astragalus, and removing the cartilaginous ends of the tibia and of the scaphoid and cuboid bones, and bringing the sawed surfaces together so that the patient can step upon the toes. He described a modification in the lateral incision by which he secures a fuller supply of blood for the nourishment of the foot than is gained by the operation as previously performed, making a decided improvement in it. The indications for the operation are: 1. Extensive injury to heel and adjacent parts of the foot; of the nineteen recorded cases, not one has been done to meet this indication. 2. Caries or tuberculosis of the os calcis and adjacent tissues; this is the most frequent cause noted. 3. Extensive disease of the soft parts of the heel. The after-treatment consists of keeping the foot at rest upon a splint, either of plaster or an interior and posterior.

Dr. MacLean spoke quite strongly in favor of Syme's operation, which he much preferred to the one described in the paper. He said he had made Syme's operation thirty-three or thirty-four times with generally very satisfactory results.

Dr. Quimby, of New Jersey, described an operation of his own devising, in which there is only a partial exsection of the os calcis, and no disturbance of the cartilage of the tibia, but the cut surface of the os calcis is

turned up into contact with the cartilage of the tibia. He has found the results to be satisfactory, and specially advantageous in the case of young children, as by this method the development and growth of the tibia is not interfered with.

Dr. J. M. Barton, of Pennsylvania, read the next paper, on the

VERTICAL EXTENSION IN THE TREATMENT OF FRACTURE OF THE FEMUR IN CHILDREN.

In five cases which he has treated by this plan most satisfactory results have been obtained, and the treatment was much simpler and easier than by other methods in common use. Bryant is credited with the first proposal of this treatment. The treatment is vertical instead of horizontal extension. One of the special advantages is the facility with which the patient can be kept clean.

Dr. Quimby, of New Jersey, did not see the advantage of the position, and strongly favored Buck's extension.

Dr. Link, of Indiana, was of the opinion that too much stress had been laid on extension and counter-extension. The three points which he gives as essential in the treatment of fractures are bandaging, flexion, and rotation. He bandages to control spasmodic action of muscles, flexes, and rotates outward in order to relax them. He had not used extension or counter-extension for years.

Dr. Belfield, of Chicago, read a paper advocating

DIGITAL EXPLORATION OF THE BLADDER,

including a report of ten cases of vesical tumor and enlarged prostate. He gave indications for this procedure, and contra-indications.

Dr. Robert Newman, of New York, then read a paper on

THE GALVANO-CAUTERY IN DISEASES OF THE PROSTATE, BLADDER, AND URETHRA,

exhibiting apparatus and demonstrating the mode of using the same. There was no discussion of these papers.

Dr. Glover, of Terra Haute, Ind., read a paper on the

TREATMENT OF ANAL FISTULA ASSOCIATED WITH PHTHISIS.

It was a collection of the opinions of a large number of physicians and surgeons in regard to the advisability of operating in such cases. The greater number seemed to favor operation, on the ground that it is best to relieve the patient of one disease, if possible, rather than allow him to be afflicted by both of them.

Dr. J. B. Johnson opposed this view, holding that the effect of arresting the drain by the fistula was calculated to intensify the morbid process in the lungs.

The Section adjourned.

SECTION ON OBSTETRICS.

Tuesday, May 4th—First Day—Morning Session.

Dr. S. C. Gordon, of Portland, Me., President; Dr. J. F. Y. Paine, of Galveston, Tex., Secretary.

After a few remarks by the President, the first paper was read by Dr. W. H. Wathen, of Louisville, Ky., on the

TREATMENT OF THE MEMBRANES IN ABORTION AND LABOR.

One year ago he read a paper before this Section on the "Treatment of Secundines in Abortion and Labor."

He divided his subject into three stages, premature labor, labor at term, and abortion prior to the sixth month. In abortion after the eighth week the membranes should be removed entire, if not expelled in twenty minutes. Should the woman show symptoms of syncope from hemorrhage, the shock of the removal of the membranes is not more than that of tamponing the vagina. Seventy-seven per cent. of cases of secondary hemorrhage occurred after the expectant plan, thirty-two per cent. after expression. Pajot reports out of sixty-eight cases of retained placenta that sixty resulted fatally. If the operation is done without delay the os is dilated or dilatable. The fingers are best to insert. Tents should be avoided; dilators may be used. If the patient is under an anæsthetic the entire hand may be passed into the womb. In premature labor and labor at term the placenta is easier separated.

The membranes can generally be removed by judicious expression, but if not, it is better to remove by force. He recommended Crede's method, and that the hand be always kept over the uterus. Crede removes the membranes in four and a half minutes, with universally good results. It was better, however, to give more time for coagula to form. If the membranes are held in the uterus by a cicatricial contraction, dilate this contraction to remove them. We should always have a hypodermic syringe charged with ergot to use if necessary. We should never use ergot until the membranes are expelled.

Dr. Fuller, of Maine, thought the paper a very practical one. The speaker's course had uniformly been to deliver the after-birth as soon and readily as he could. His experience had been that prompt removal of the placenta stops and prevents hemorrhage. He is generally careful to secure the placenta in five minutes after the birth of the child. He regards this promptness as a matter of safety.

Dr. W. P. King, of Sedalia, Mo., during the past twenty years had 719 natural labors and twice as many abortions. If near term, he practised the early removal of the placenta, generally waiting a long enough time for the appearance of one other pain. He said he unbuttoned the placenta with his fingers, and turned it out as a boy turned his tongue out of his mouth. He recommended dilatation with the finger and with the forceps, then to go in with the duck-billed forceps. He never failed during the last few years to wash out the uterus with a hot sublimate solution—115° to 135°, and a strength of 1 in 4,000. He carried a concentrated solution and made it on the spot. He used the reflex catheter, and washed until the water returned clear, having first rendered the hand aseptic. The two cases so often quoted, the Indian and the white woman, were not analogous cases. He strongly recommended asepsis and the clean removal of everything.

Dr. Garcelon, of Maine, asked if he understood the last speaker correctly that he had twice as many abortions as natural labors.

Dr. King replied that he did.

Dr. Garcelon then asked what sort of people he lived among

Dr. King said they were chiefly immigrants from New England.

Dr. C. R. Reed, of Middleport, O., said he did not wait so long now to deliver the placenta as formerly. He found the longer you waited the more firmly the os contracted and the greater the difficulty to remove the placenta.

Dr. W. W. Potter, of Buffalo, thought this would always form an interesting point of discussion. He criticised the manner in which the terms massage and Crede's method had been used in the discussion. Merely pressure suprapubic was not Crede's method, but to place the fingers behind and the thumb before the fundus uteri, and press out the placenta as you would a peach-stone. Beyond and above the question of hemorrhage is that of hyperplastic subinvolution.

Dr. Morris, of Baltimore, favored the opposition to delay. He never allowed a woman to lie twenty minutes without delivering the placenta. He believed in heroic treatment, though in abortion we cannot treat so heroically.

(To be continued.)

AMERICAN SURGICAL ASSOCIATION.

Seventh Annual Session, held at Washington, D. C., April 28, 29, 30 and May 1, 1886.

WEDNESDAY, APRIL 28TH—FIRST DAY—MORNING SESSION.

THE Seventh Annual Session of the American Surgical Association was held in the reading-room of the Army Medical Museum, Washington, D. C.

The meeting was called to order at eleven A.M. by the PRESIDENT, MOSES GUNN, M.D., of Chicago.

After the calling of the roll, the President delivered his

ANNUAL ADDRESS,

an abstract of which follows:

FELLOWS OF THE AMERICAN SURGICAL SOCIETY: Custom, if not organic law, requires the President to open the proceedings by a more or less formal address. I shall indulge in a few thoughts on certain points in the

PHYSIOLOGY AND SURGERY OF MOTOR, SENSORY, AND MOTO-SENSORY OR COMPOUND NERVES.

Previous to the investigations of Magendie and Bell, no clearly-defined effort had been made to differentiate the motor and sensory nerves. It remained for these investigators to clearly establish the fact of the motor qualities of the anterior roots and the sensory qualities of the posterior roots. With this also came the idea that this difference was intrinsic and due to peculiarities in the anatomical and physiological organization of the nerve-fibres. This appears to have been the idea generally entertained. Is this a fact? or is the difference to be found in extrinsic conditions, viz., the anatomical organization at either end of the nerve, the nerve-trunk being simply a conductor of a form of force. Upon the facts of the case depends the possibility of satisfactory results in the section and physiological reunion of divided compound nerves, and the grafting of one compound nerve upon another, where there has been so great a loss of the trunk as not to permit of the approximation of the distal and proximal portions of the nerve. Success in achieving satisfactory results by such operations or a uniform lack of success must afford a tolerably reliable answer to these interrogatories, much more reliable than experiments on some of the inferior animals.

EXPERIMENTS ON ANIMALS

require severe scrutiny, or they may mislead. Some of the experiments on animals were then referred to. Philipeau and Vulpain divided in dogs the pneumogastric and sub-lingual nerves and united the central end of the pneumogastric with the distal end of the sub-lingual. They also divided the lingual branch of the fifth nerve and the sub-lingual, uniting the central end of the lingual branch of the fifth nerve to the peripheral end of the sub-lingual, and tearing out the central end of the sub-lingual. The result of these experiments was, that after a time motion and sensation were restored. Other similar experiments were cited.

In April, 1880, Dr. E. P. Davis made for the speaker the following experimental operation: Under an anæsthetic the axillary plexus was exposed. The median was severed after its bifurcation, and also the ulnar and radial. The outer head of the median was united to the ulnar. The inner head of the median was united to the radial in the same way. At the end of ten days, the dressing was removed and complete paralysis of motion and of sensation found. In four weeks this began to disappear, and later a perfect condition of motion and sensation was observed. By this operation the distal portion of the median was left entirely without nervous supply, and yet there was no paralysis of muscles or integument supplied by this portion of the nerve. Later investigation shows that in the dog and certain other animals there is an anastomosis of fibres between different nerves, forming an indirect route for the conduction of nervous force.

Nerve-suture in man has become a recognized operation, both as a secondary and primary procedure. It must be concluded from experiments that

MOTOR, SENSORY, AND TROPHIC POWERS DO NOT DEPEND ON THE NERVE ITSELF,

nor on a difference of nerve-force, but on the organism at the end of the nerve. Professor Stephani is reported to have succeeded four times in uniting the distal end of the median with the proximal end of the musculo-spiral and the distal end of the latter with the proximal end of the former. Immediately following the operation were complete paralysis and atrophy, but in the course of six or eight months there was not only restoration of muscular power, but harmony of action to an extent sufficient to permit the animal to run, but perfect extending power was not realized.

THE INTERGRAFTING OF A SECTION OF A NERVE

of an inferior animal to replace extensive loss of nervous structure will probably be of too uncertain success to constitute a standard operation, but can the grafting of the distal end of a nerve in such a case upon the side of or into the trunk of an adjacent nerve secure to it a supply of nerve-force? Experiments made by Kawa would indicate that such might be the case. To establish this point experiments on dogs are valueless on account of the free anastomosis. We must look for the solution of this question to the rare opportunities met with in the course of surgical practice to institute experimental operations on man. A case has been reported by Després, where there was such extensive destruction of the median nerve as to preclude the possibility of approximating its ends. He therefore engrafted the distal end of the median with the trunk of the ulnar. Fifty-four days after the operation the functions of the parts supplied with the median nerve were partially restored.

The speaker had occasion recently to resect over three inches of the right ulnar nerve in the removal of a neuroma in a male patient aged thirty-six. The sheath of the median was removed, and the broadly chamfered end of the ulnar laid in contact with it and secured by three fine catgut sutures. Immediately after the operation there was complete paralysis of the parts supplied by the ulnar. On the eighteenth day there was a slight return of sensation along the ulnar side of the ring-finger, and there seemed to be some contraction of the flexor carpi ulnaris. Four months after operation, the patient could feel a slight touch on the ulnar side of the ring-finger, no sensation to touch in the little finger, but an increased warmth in it. He can now adduct the hand with considerable vigor, but as yet has no power over the terminal phalanges.

The positive evidence which these two cases furnish at so early a date warrants further effort in this direction, and corroborates the other evidence of the correctness of the postulate that the function of a given nerve depends entirely upon the machinery at its ends, and not upon any intrinsic quality.

The speaker concluded with a few words of welcome to the Fellows of the Society, expressing the hope that this meeting would be the occasion of renewing old friendships and forming new ones.

Upon the conclusion of the address, letters from distinguished Honorary Fellows were read, and a proposition to form a

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

was discussed, and referred to a committee of three, to report Thursday morning, the committee consisting of Drs. J. Ewing Mears, Wm. T. Briggs, and Christopher Johnston.

AFTERNOON SESSION.

DR. CHRISTOPHER JOHNSTON, of Baltimore, read a paper entitled

DIAGNOSTITIAL LAPAROTOMY.

This operation, he said, is as ancient as our race, but in early times was always practised on the cadaver. The rapid advance of abdominal surgery now demands the attentive consideration of surgeons, and requires the expression of opinion as to the position of the line limiting interference in certain classes of cases. The labors of gynecologists and surgeons have greatly lowered the mortality of laparotomy for ovariotomy and hysterectomy, but the pathological possibilities of the male and female abdomen still constitute many difficult problems, which the knowledge and zeal of surgeons are constantly striving to solve. The question arises, How shall the seat of the pathological change be reached? The answer is laparotomy, which makes the diagnosis positive in cases of doubt, and is preliminary to other operations which may be required. If the surgeon has no right to refuse to give air to a fellow-creature becoming asphyxiated from obstruction in the air-passage, has he the option of refraining from surgical interference when the primæ viæ are obstructed in their functions? The propositions, then, are, first, that for abdominal surgical affections all possible operations ought to be attempted after the establishment of a precise diagnosis; and second, that when a just diagnosis cannot otherwise be reached, it may, and ought to be, determined by an exploratory incision. The mortality of abdominal incision without complication is low. It is unfair to compare dissimilar operations involving the peritoneum, for some have been so frequently performed that new methods and resources have been applied to them. A great consecutive mortality following a surgical procedure in nowise determines the want of value of the operation, while most cases recovering are to be considered a certain gain.

The abdominal incision intentionally diagnostitial is fraught with so little comparative ill consequence that its high value or necessity may be fairly claimed as an established and proper aid to diagnosis. Of all operations requiring laparotomy, those involving the uterus and its appendages probably fill the largest space. Next we have those involving the alimentary tract.

Speaking of the

CÆSAREAN SECTION,

the speaker said that comparing the mortality of this operation in former days with the mortality of the Porro-Muller operation, we find that while shock and other dangers are greatly increased in the modern operation, the mortality remains about the same. The old operation is, as a rule, done under objectionable surroundings, by inexpert operators, while the modern operation is done by experts, with the best surroundings. We have yet to see what the old operation will accomplish when the same safeguards are thrown around it that are given to the newer operation.

WHEN IS EXPLORATORY LAPAROTOMY CALLED FOR?

It should be stated that to a certain extent every laparotomy is diagnostitial. Without establishing unnecessary groups, two great classes in which exploratory laparotomy is demanded or permissible are to be recognized. First, all sorts of cases in which the diagnosis cannot be made without its aid. Second, all those cases in which a diagnosis having been made no definite line of operation can be mapped out, and no abandonment of active measures be entertained or justified. As in these cases laparotomy holds the key in all cases of doubt, both as to what is the matter, and what is to be done, it should be called upon to surrender that key. In intestinal cases the early operations are those which save life the oftenest, but abandonment ought not necessarily follow delay in invoking the surgeon's aid.

DR. A. VANDERVEER, of Albany, said there could be no doubt that experience shows us that simple incised wounds of the abdomen without injury to the abdominal organs will usually heal without difficulty, even if left to themselves. The mortality is very slight indeed. Even when the injury is more serious, recovery often follows. The cases which give us anxiety are those in which the bowel is injured and its contents escape into the abdominal cavity. These die inevitably if nothing is done. In these cases laparotomy should be performed. This view is often opposed by the friends of the patient, and also by the attending physician. Much will have to be done in the direction of teaching the profession and the public the importance of early operation in these cases. Cases were cited of gunshot injuries of the intestine, and of rupture of the intestine produced by external violence, in which the operation might have saved life if it had been permitted by the friends of the patient. The operation, as a rule, will not be permitted until the patient is in collapse, and it is then too late. Dr. Johnston had presented points of great interest and importance. This operation should be done more frequently in the future than in the past. As regards the mode of operation, the incision in the median line is by far the best. In some cases it would be impossible to reach the seat of disease by any other incision. In the closing of the wound some recommend several lines of sutures, uniting the different layers of tissue separately. He considered this no advance on the old method of using sutures including all the layers of tissue. Where there is great distention of the bowel in intussusception the discovery of the seat of trouble is greatly facilitated by a procedure which he had seen Tait adopt in such a case. He opened the distended coil of intestine, permitted the gas to escape, and then closed the opening with sutures.

DR. J. EWING MEARS, of Philadelphia, said that in considering diagnostitial laparotomy he would arrange the subject in this manner. In the first place, we should use external manipulation; second, internal examination where this is possible; third, aspiration, and finally, laparotomy. He regarded laparotomy as much the most serious of all these methods. The more experience he gained the greater was his conviction that

THE ABDOMINAL CAVITY SHOULD NOT BE OPENED WITHOUT DUE CONSIDERATION.

Death is a severe penalty to pay for the perfection of the diagnosis. We have already learned a great deal in regard to methods of diagnosis by external manipulation, but the tendency at the present time seems to be in favor of opening the abdominal cavity rather than cultivating that essential skill by which the diagnosis may often be made without resorting to operation. . . . Tait's assertions, that opening of the abdominal cavity is a matter of very little consequence, has led many of the younger members of the profession to perform this operation without due consideration. I agree with Dr. Johnston that having exhausted other methods of diagnosis, if the patient's life depend upon it, we should open the abdomen. He believed that in intestinal obstruction the abdomen should be opened, and that many lives have been lost by want of courage on the part of the surgeon. There is no question as to the duty of the surgeon in the case of gunshot wounds of the intestines.

DR. CHARLES T. PARKES, of Chicago, thought that the size of the incision made very little difference so far as the final recovery is concerned, but when the incision extends above the umbilicus recovery is slower and attended with more inconvenience. In the cases which he had seen where post-mortem examination followed, there was no evidence that the abdominal incision had anything to do with the fatal issue. He related the case of a child, eighteen months of age, in which the operation was declined, and in which, at the post-mortem, intussusception

of the small intestine was found, which was without adhesions and could readily have been removed.

The abdominal opening should be made in the median line. In regard to closure of the wound, he thought that the simple suture going through all the tissues had been followed by such good results that we need use no other. Where there is much distention of the intestine, the method by opening the bowel is the best. When the exploratory needle is used, it is necessary to make a number of punctures. In two instances he had found extravasation of fecal matter through these punctures.

Dr. McLane Tiffany, of Baltimore, had lately seen four cases of intestinal obstruction. In all four laparotomy was proposed. Two refused, and both of these died. Two accepted, and one of these recovered. The case that died was that of a woman, aged seventy-three, in whom the obstruction had lasted seven days. The intestine was enormously distended, and in the examination ruptured with the escape of the gas. After this it was extremely easy to find the seat of constriction. The shock would be lessened if the intestine were emptied. He agreed with the speaker as to the great value of laparotomy as a diagnostic operation, and he said it was not possible for any human being to recognize through the abdominal walls the manifold conditions of the organs present.

Dr. J. F. Thompson, of Washington, reported

TWO CASES OF LAPAROTOMY

for the purpose of diagnosis. A woman, aged thirty-five, had the history of an abdominal tumor lasting for several years. It presented the appearances of an ordinary ovarian tumor, with the exception that it had two sinuses communicating externally. After frequent examinations by various surgeons, it was decided to make an exploratory operation. One of the sinuses was traced back to the peritoneum, without reaching any satisfactory explanation of the tumor. The peritoneum was then opened, and the finger introduced, but no tumor in the cavity could be felt. Toward the abdominal wall a mass could be distinguished apparently imbedded in the tissues. The wound was closed and the patient recovered from the operation, but she subsequently died from other causes, and the post-mortem showed that the tumor was an enlarged spleen which had fallen down below the umbilicus, and become attached to the abdominal wall.

The second case was one of carcinoma, involving the transverse colon which ran directly through the mass. There was also an attachment of the growth to the liver. The abdomen was closed, the patient recovered from the operation, and is still living.

The author of the paper, in closing the discussion, said that there was a certain hesitancy on the part of surgeons in regard to operating in cases of abdominal injury, on account of the people and on account of juries. To overcome these objections it would be necessary to educate the public to the true state of affairs. He was glad to find his opinions supported by so many of the able minds of the profession.

Thursday—Second Day—Morning Session.

Harold C. Ernst, M.D., of Jamaica Plains, Mass., read a paper entitled

A CONSIDERATION OF THE BACTERIA OF SURGICAL DISEASES.

After an extended description of the various bacteria met with in wounds, chronic abscesses, erysipelas, and other surgical affections, and an account of numerous experiments on animals, with an exhibition of specimens in culture mediums and under the microscope, the author presented the following conclusions: I. The experiments conducted over so long a time, with the successful inoculation at the end of that time, indicate very plainly the retention of pathogenic powers of these organisms indefinitely. II. Their permanence of form is also well established. III. In order to obtain either a modification of their pathognomonic forms or of their morphological properties, if this is possible at all, some different methods of investigation must be used than those which have hitherto been employed. IV. The probabilities indicate that work in this direction is not likely to be successful. V. So far as the experiments go, they tend to show that no form of the suppurative process in man is unattended by bacteria, and that the inoculation in the lower animals of pure cultures of these bacteria is followed by more or less acute and extensive suppuration. VI. The above conclusion is supported by the evidence of all workers in this field of research. VII. A number of different clinical phenomena may be produced by the same organism, all of these phenomena, however, coming under the general head of the inflammatory and suppurative processes. VIII. The difference in the results produced by the same micro-organism in different individuals depends upon influences outside of the bacteria themselves. IX. These differences are the result of differences in the amount of the infectious material received into the system, and of the locality or lesions by which it gains access, and also by variations in the individual condition—the personal equation being a very large factor in making up the sum of any results in bacteriological work.

Dr. S. W. Gross, of Philadelphia, said that the observations made by Dr. Ernst confirm those made by other observers, showing very conclusively that the suppurative processes are dependent upon vegetable organisms. The most interesting part of the paper was that which relates to chronic suppuration. Dr. Ernst had been the first, he thought, to show that chronic suppuration is due to the same micrococci as the acute form.

Dr. J. S. Billings referred to the difficulties encountered in this work. It is only by personal experience that they are learned. One of the difficulties in considering the probable relation between cause and effect is that there seems to be no relation between the number of micrococci present and the effects produced. A second difficulty is that we are by no means sure of the specific differences between these various forms of microscopical organisms.

Dr. N. Senn, of Milwaukee, desired to say a few words in regard to the conditions which predispose to the action of germs introduced into the body. The object of the surgeon should be, in the first place, to prevent the introduction of these germs, and, in the second place, to secure inocuity to the infection by preventing the occurrence of predisposing causes. The first predisposing condition is found in an unusual arrangement of the capillary circulation. This is well illustrated in

OSTEO-MYELITIS.

In this affection the germs are found in greatest abundance in those situations where the anatomical relations of the vessels predispose to engorgement and localization of the microbes. This is in the large vessels about the centres of ossification in the epiphyses of bones. The second predisposing influence is traumatism. The germs of osteo-myelitis may be present in the body for a long time, and produce no effects until the occurrence of traumatism, as a fracture favors the localization of the microbes.

Dr. David Prince, of Jacksonville, Ill., exhibited a diagram and described a form of room whereby

A STERILIZED ATMOSPHERE

could be secured for the patient by means of air treated with corrosive sublimate, and forced through a tube opening immediately above the seat of operation.

THE REPORT OF THE COMMITTEE

on the organization of a congress of American physicians and surgeons was then presented.

In view of the fact that there are many special medical organizations now in existence in the United States, and also that many representative men in the medical profession are members of two or more of these associations, the committee thought it would be advisable to make arrangements with these societies whereby uniformity as to the time and place of their several meetings might be obtained. In this way their members might be spared the expense and loss of time entailed upon them when obliged to make several distinct trips to different places each year.

The plan proposed was to unite the following-named associations into a congress to be called

A CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS:

The American Surgical Association, the American Ophthalmological Association, American Otological Association, American Neurological Association, American Laryngological Association, American Gynæcological Association, American Dermatological Association, American Climatological Association, and the American Clinical and Pathological Association.

THE PLAN OF ORGANIZATION

embodies the following: Each society is to elect its own officers; hold its own sessions apart from the others at the time and place of meeting; publish its own transactions; and do all other acts which by virtue of its constitution and by-laws it has the inherent right to do, thus preserving its own autonomy.

It was proposed that the congress be composed of these special societies when in convention, and that its meetings be held in the city of Washington; the constitution and by-laws of the congress to be formed by a committee of equal number from each special society. The opening session of each annual meeting of the congress to be devoted to such general business as may pertain to the interests of the association as a whole. The congress being presided over by a president elected annually, and who must deliver an opening address on the first day of the session. The president to be chosen by a nominating committee of one from each special society; the presidents of the special societies to be *ex-officio* vice-presidents of the congress. Membership in the congress to be acquired only by virtue of fellowship in one or another of the special organizations. The other officers to be elected as determined upon by the convention in session.

The committee disclaimed any intention of opposing any other organization in America, but proposed simply a plan of uniting into one great body the already existing special societies, doing so from an honest conviction that such a union will prove of inestimable benefit to them individually and collectively.

The committee appointed to consider this proposition reported that they viewed with great satisfaction the perfection of a plan through which the meeting of the above-named societies at the same time in Washington may be accomplished, and recommended the adoption of a resolution that a committee of five be appointed to confer with committees from other special organizations to arrange details and to report at the next annual meeting of the association. This was adopted.

The session then adjourned.

AFTERNOON SESSION.

The first paper was by DR. N. SENN, of Milwaukee, and was entitled

THE SURGERY OF THE PANCREAS AS BASED UPON EXPERIMENTS AND CLINICAL RESEARCHES.

The following conclusions were presented: 1. Restoration of the continuity of the pancreatic duct does not take place after complete section of the pancreas. 2. Complete extirpation of the pancreas is invariably followed by death, produced either by the traumatism or gangrene of the duodenum. 3. Partial excision of the pancreas for injury or disease is a feasible and justifiable surgical procedure. 4. Complete obstruction of the pancreatic duct, uncomplicated by pathological conditions of the parenchyma of the organ, never results in the formation of a cyst. 5. In simple obstruction of the pancreatic duct the pancreatic juice is removed by absorption. 6. Gradual atrophy of the pancreas from nutritive or degenerative changes of the secreting structures is not incompatible with health. 7. Physiological detachment of any portion of the pancreas is invariably followed by progressive degeneration of the glandular tissue. 8. Extravasation of pancreatic juice into the peritoneal cavity does not produce peritonitis. 9. Crushed or lacerated pancreatic tissue is removed by absorption, provided the site of operation remains aseptic. 10. Complete division of the pancreas by elastic constriction is never followed by restoration of interrupted anatomical continuities. 11. Limited detachment of the mesentery from the duodenum, as required in operations upon the pancreas, is not followed by gangrene of the bowel. 12. In all operations upon the head of the pancreas the physiological attachment of the peripheral portion of the gland should be maintained by preserving the integrity of the main pancreatic duct. 13. Partial excision of the splenic portion of the pancreas is indicated, in cases of circumscribed abscess and malignant tumors, in all cases where the pathological product can be removed completely without danger of compromising pancreatic digestion or of inflicting additional injury upon important adjacent organs. 14. Ligation of the pancreas at the point or points of section should precede extirpation as a prophylactic measure against troublesome hemorrhage and the extravasation of pancreatic juice into the peritoneal cavity. 15. The formation of an external pancreatic fistula by abdominal section is indicated in the treatment of cysts, abscess, gangrene, and hemorrhage of the pancreas due to local causes. 16. Abdominal section and lumbar drainage is indicated in cases of abscess or gangrene of the pancreas in which it is found impossible to establish an anterior abdominal fistula. 17. Thorough drainage is indicated in cases of abscess and gangrene of the pancreas, with diffuse burrowing of pus in the retro-peritoneal space. 18. Removal of an impacted pancreatic calculus in the duodenal extremity of the duct of Wirsung by taxis, or incision and extraction, should be practised in all cases where the common bile-duct is compressed or obstructed by the calculus, and death is threatened by cholæmia. 19. In such cases the principal source of danger, extravasation of bile into the peritoneal cavity, should be avoided by preliminary aspiration of the dilated bile-ducts, accurate closure of the visceral wound with fine silk sutures, and absolute physiological rest of the organs of digestion during the time required in the healing of the visceral wound.

Remarks in discussion were made by Drs. Conner, Fenger, and Parks.

DR. CHAS. T. PARKS, of Chicago, read a paper, supplemental to his paper of last year, reporting

TWO CASES OF CHOLECYSTOTOMY,

both of which ended fatally. In discussing the paper,

DR. W. H. CARMALT, of New Haven, described the following case: The patient, a woman, thirty-seven years of age, had suffered for several years with indefinite dragging sensations in the right hypochondriac region. This incapacitated her from performing her household duties. In 1883 she stated that she had been operated on in Berlin for floating kidney, and in evidence showed a large scar in the lumbar region. She also stated that three weeks after operation, as a result of violent sneezing, the organ had become loosened. She came to the speaker for the purpose of having the kidney removed. Examination showed the abdomen to be exceedingly pendulous. The tumor was rounded and could be readily grasped between the fingers. It was very movable. An incision

was made, and it was at once evident that it was not the kidney. Further examination showed it to be a dilated gall-bladder. An aspirator was introduced, and four ounces of inspissated mucus drawn off. Five calculi were found. The gall-bladder was closed with a continuous catgut suture. The wound in the peritoneum was closed in the same way. The muscles were united by interrupted silk sutures, and a continuous catgut suture was used for the incision in the skin. The patient made a good recovery, and is now able to attend to her duties.

In the absence of the author, DR. JOHN S. COLEMAN, of Augusta, the Secretary read his paper, entitled

A CASE SIMULATING ABDOMINAL PREGNANCY—LAPAROTOMY, CÆSAREAN SECTION, AND REMOVAL OF A LIVING CHILD.

February 27, 1886, the writer was requested to see B. A——, colored, primipara, aged twenty-four. The attending physician believed her to be the subject of extra-uterine pregnancy. She thought herself at the end of gestation, and for three days had suffered with pains which were quieted by the administration of laudanum. The entire abdomen was greatly distended, particularly in the upper portion. Vaginal examination showed procidentia, the os projecting three inches beyond the labia. The os was sufficiently patulous to permit the entrance of the index-finger. Rectal examination gave negative results. Palpation and auscultation showed the position of the fœtus to be dorso-anterior and obliquely transverse. Placental souffle could not be heard. The abdomen was so large, and the fœtal heart-sounds so distinct, that the writer also concluded that the case was one of extra-uterine pregnancy, and the patient was examined by a number of surgeons, who agreed in the diagnosis. The history and the symptoms indicated that the patient was at the full term of pregnancy, and it was decided that immediate surgical interference was imperative. An incision six inches in length was made in the linea alba. The exposed tumor much resembled the pregnant uterus. The incision was extended above the umbilicus, and it was positively determined that the case was one of uterine pregnancy. The uterus was drawn forward, and its anterior wall cut through. The writer had not conceived it possible for the uterine tissue to be prolonged from the epigastrium to three inches beyond the vaginal notch. A vigorous female child, weighing seven or eight pounds, was removed. The hemorrhage was not great. The placenta was removed without difficulty. The incision in the uterus was closed with deep and superficial catgut sutures. The peritoneum was closed with a continuous suture, and the abdominal wall with harelip-pins and superficial sutures. Antiseptic precautions were adopted throughout the operation, but septicæmia developed, the patient living but four days.

At the autopsy there was found no decided injection of the peritoneum. Two moderate-sized clots were found on the peritoneum, the cavity containing nearly a quart of bloody serum. The uterus was one-half its former size, measuring from fundus to os externum twelve inches. The cervix measured six inches. The wound was found gaping throughout.

The author then gave an extended review of the literature of the subject, and related similar cases by various operators.

To the paper was appended

A LETTER FROM MR. LAWSON TAIT,

indorsing the performance of abdominal section in the above case, and asserting his strong objections to operations looking to the breaking up of the fœtus. He thought that a preferable operation in the present case would have been the Porro operation. This would probably have been successful as regards both the mother and the child.

Adjourned.

THIRD DAY—MORNING SESSION.

DR. T. F. PREWITT, of St. Louis, read the first paper, which was entitled

TRAUMATIC ANEURISM OF THE INTERNAL CAROTID ARTERY.

The speaker first referred to those cases of spontaneous aneurism of the internal carotid artery which are found in literature, and the frequency with which this lesion had been confounded with cynanche tonsillaris. He had been unable to find more than one reported case of traumatic aneurism of this artery. This was reported by Dr. William T. Briggs, of Nashville. The aneurism in that case followed a stab wound, and was operated on successfully.

Dr. Prewitt then described the following case: E. J——, colored, seventeen years of age, was shot by her husband early in January, 1885. The weapon used was a revolver carrying a No. 32 ball. The shot was fired at a distance of two feet, and entered the cheek over the malar bone, ranging backward. There was profuse hemorrhage at the wound of entrance; there was no wound of exit; the bleeding was controlled by compression. There was hemorrhage from the ear at the time, and this recurred on two or three occasions. For some time after the accident the patient stated that there was some hemorrhage from the mouth and nose on rising in the morning. There was some swelling at the time, which gradually increased until April 2d, when she was seen by the speaker. It then projected into the pharyngeal cavity and rested against the uvula, and extended externally from the anterior petrous portion of the temporal bone to the hyoid bone. The swelling pulsated in every direction, and gave thrill and bruit. Immediately after the accident there was paralysis of taste and of the right side of the tongue; this continued. Pressure upon the carotid artery arrested the pulsation in the tumor. There was no difference in the pulsation of the two temporal arteries; the pupils were equal and responded normally to light. There was persistent headache, with sounds in the ear, which were increased by lying upon that side. The voice was greatly interfered with, owing to paralysis of the right vocal cord. The appetite was poor and the patient emaciated; she was unable to swallow solids, and fluids regurgitated when the attempt to swallow was made.

With this history and with these symptoms it was decided that there was an aneurism of the internal carotid artery, and that the vessel had been wounded near the carotid foramen, for nowhere else are the artery and nerve in such intimate connection.

It was determined to at once ligate the common carotid artery. The usual incision was made, and the dissection continued until the artery was exposed. A silk ligature was passed from behind forward. The vessel was then lifted, to be sure that the pulsation was arrested before the ligature was applied. Finding that it was, the vessel was then tied. The pulsation was at first arrested, but in a few minutes it could be again felt. In the absence of all precedent it was concluded to extend the incision upward in front of the tragus, and determine the feasibility of opening the sac and tying the distal end. This was a forlorn hope, for the diagnosis was that the aneurism was seated just external to the carotid foramen. An incision was then made below the ear, and extended upward back of the ear. A cautious dissection revealed the fact that the sac filled all the space between the mastoid process behind and the condyles and ramus of the jaw in front. It extended to the base of the skull, to which it was closely adherent. It was, therefore, impossible to reach the artery in that direction. Further attempts were abandoned, the wound was closed, a drainage-tube inserted, and an antiseptic dressing applied. On the eighth day there was some hemorrhage from an opening near the angle of the jaw. This was repeated, and she spat up some blood on the following

day. Examination showed a little coagulum at the angle of the jaw, which was removed, and the left forefinger thrust into the opening. No coagulum could be felt within the sac. The attempt to detect the entrance of the artery with the finger failed. In order to avoid the hemorrhage which would follow the removal of the finger, the sac was stuffed with lint treated with iodoform. This controlled the bleeding. The patient gradually became weaker, and died on the twenty-fifth day after operation, from exhaustion. Ten days after the sac was stuffed epileptiform convulsions, involving the facial muscles and the flexors of the forearm and hand, appeared. These continued at intervals until her death.

The post-mortem showed the ball in the posterior part of the sac. The opening of the carotid artery was found close to the carotid foramen, and seemed blocked up with clot. The blood-vessels of the membranes of the brain were congested, particularly on the right side. The inferior petrosal and lateral sinuses were filled with thrombi up to the torcular herophili.

DISCUSSION.

Dr. William T. Briggs, of Nashville, remarked that the case which he had reported at a previous meeting of the Association was that of a young man stabbed in the neck. Five weeks later the patient presented himself at the clinic with a swelling of the neck giving all the signs of a small aneurism of one of the branches of the external carotid artery that could be readily reached and ligated. An opening large enough to permit the introduction of the finger was made, and at once it was found that the condition was more serious. The hemorrhage was controlled by stuffing a sponge into the sac, and the common carotid ligated. When the sponge was removed, the hemorrhage was as free as before. The opening in the sac was then enlarged, the opening of the artery having been found and controlled by the finger. The vessel was then hooked up, and a ligature applied above and below the sac. The patient recovered, and is still living in perfect health.

Dr. D. Hayes Agnew, of Philadelphia, described the following case: About three years ago a woman presented herself at the University Hospital, with a tumor as large as an orange just beneath and behind the angle of the jaw. There was also a projection into the pharynx. This tumor had grown slowly for eight months, and was attributed to a blow on the side of the head. It was considered a case of aneurism of the internal carotid, and the speaker ligated the common carotid above the omo-hyoid muscle. The pulsation was diminished, but it could still be felt. He then tied the superior thyroid and the lingual; this stopped all pulsation. The patient did well for two weeks, when pulsation again returned. Pressure on the carotid of the other side controlled the pulsation, and he then placed a ligature around the primitive carotid of that side. During his absence from the city ulceration took place, and a gush of blood into the pharynx occurred. The resident stuffed the cavity, but the patient died eight days later, apparently from septic poison. In case rupture occurred, Dr. Agnew had determined to lay the sac open and have tied above and below. From the history of the cases he believes that in this condition the operation should be a formal one of section of the jaw and ligature above and below the sac.

Dr. A. Vanderveer, of Albany, reported the following: In December, 1882, a man, forty-two years of age, a farmer, was sent to him with a swelling of the neck, which was diagnosed to be an aneurism of the internal carotid artery. It was attributed by him to forced motion of the head to one side which was required in a certain part of his work. It was decided to first try compression. This was faithfully carried out, and at the end of six days the swelling was much diminished, and the tumor in the pharynx seemed more solid. He then went to his home, but returned one month later, the previous condition having returned. Compression was again tried, and at the end of five days there was a marked diminution in the the size of the tumor. He again returned home and continued in apparently good health for four or five weeks, when he suddenly complained of a severe pain in his head and fell dead. An autopsy was made, but no satisfactory explanation of his death could be found. The physician was inclined to attribute it to apoplexy.

Dr. L. McLane Tiffany, of Baltimore, said that in the case reported there was no room for a distal ligature. It might, however, have been possible to apply a compress, pressing the artery against the base of the skull. A record of such a case is found in Guthrie's "Commentaries." It is the case of Twitchel, of New Hampshire. A man had part of his neck blown away by a cannon-shot, exposing the carotid artery. Ten days later, while the physician was in the house, the artery gave way. The hemorrhage was controlled by the finger, and a ligature applied below the opening. The hemorrhage continued when the finger was removed. There was not room for a ligature on the distal portion of the vessel. The doctor made a graduated compress and pressed the artery against the base of the skull. The patient recovered.

Dr. T. F. Prewitt, of St. Louis, agreed with those who had taken part in the discussion, that the old operation is the proper one for traumatic aneurism where it is possible to apply it. In this case this could not be done. Compression had been alluded to, but we should not expect compression to succeed in a case where ligation failed. If the circumstances had been suitable, he would have tried compression, but the symptoms were too urgent to permit of this.

The next paper, by Dr. Roswell Park, of Buffalo, was entitled

LIPOMA TESTIS, OR A LARGE ACCUMULATION OF FAT IN THE TUNICA VAGINALIS.

J. P——, aged forty, was first seen in September, 1885. For eighteen months the patient had noticed a slow but continuous enlargement of the right testicle. This was almost painless, but caused inconvenience by its weight. At this time the tumor had reached the size of a cocoanut.

Examination showed the scrotum to be filled with a large mass, the testicles being crowded into a small pace at its upper part. This mass was solid, yet soft and not tender. Obscure fluctuation was noticed, but no fluid was obtained upon explorative puncture. The patient's general appearance excluded all idea of malignancy. The scrotal integument moved with perfect freedom over the tumor.

On October 4th the patient was operated on. A free incision through the tunica vaginalis revealed a mass of densely packed fat, which was slightly adherent but was turned out without difficulty. On separating the lobular masses by the fingers, the right testicle was found incorporated with the mass by apparently intimate tissue-connection. Finding the fibrous trabecula and blood-vessels radiating from the testicle to the fatty mass so numerous and distinct, it was decided to remove the whole en masse, which was done. The patient recovered without incident. After removal the mass weighed three pounds.

Dr. Park also read a paper entitled

NEPHRECTOMY ON A PATIENT TWENTY-THREE MONTHS OLD.

B. B——, born October 4, 1883, appeared at birth to be perfectly healthy. During the following winter the nurse noticed an enlargement in the right side of the abdomen.

July 31, 1885, the attention of the writer was called to the child, who appeared to be perfectly healthy. There was a history of steady enlargement of the growth. Examination of the abdomen revealed a firm, resisting tumor, about the size and shape of the fœtal head at term, occupying the right half of the abdominal cavity. A portion

of the fluid was removed and examined with negative results. The diagnosis was fibro-cystic tumor of the right kidney, probably of congenital origin. Five weeks later the tumor was found to have increased decidedly in size, and operation was decided upon.

The operation was performed September 15, 1885. An incision was made in the right semilunaris. Slight adhesions were found. The peritoneum covering the growth was incised, and the tumor shelled out without much difficulty. The pedicle was tied and dropped into the abdominal cavity. On the twelfth day the patient was removed to his home, and now, seven months after operation, is perfectly well. The tumor proved to be a fibro-cystic tumor of the right kidney, the cystic element predominating. Immediately after removal it weighed four pounds.

The case reported appears to be the youngest who has survived nephrectomy, he being twenty-three months old at the time of operation. The abdominal incision in this case was made not from choice, but from necessity, the tumor being altogether too large for extraction through a small opening in the lumbar region.

Dr. W. W. Keen, of Philadelphia, then read a paper on

STRETCHING OF THE FACIAL NERVE.

He first related a recent case in which he had done the operation, and added a table of the twenty-one cases so far reported.

His own case was that of a woman forty-eight years of age. She had had severe attacks of nervous trouble in early childhood, and had twice been paralyzed. Five years ago, coincident with menstrual disturbances, her right eyelids began to twitch, and in six months the whole face and the platysma were incessantly in spasm, which was increased by mental or muscular effort, such as eating, speaking, or being spoken to. Later, this was accompanied with constant pain.

In June, 1884, the right infra-orbital had been resected, with partial relief for only six weeks. Not long after the twitching extended to the right side and leg.

April 2d, Dr. Keen cut down on the seventh nerve by an incision behind the right ear, displacing the parotid gland forward and getting access to the nerve just after its exit from the stylo-mastoid foramen. Imbedded in connective tissue, it required considerable search and dissection to lay bare the nerve in this case. The exact point of its entrance into the parotid was quickly discovered by a very weak current of electricity, one electrode being placed on the cheek and the other, consisting simply of the wire, being touched at successive points from above downward. The trunk was then laid bare and stretched, the force being estimated at four or five pounds, just short of lifting the entire head.

Total facial palsy followed, with relief not only from the spasms in the face and neck, but also of that in the side and leg. The wound healed in four days, when the sutures were removed, the highest temperature having been 100.4°. The operation was done twenty-five days ago, and so far there has been no return of the spasms.

Next a table of the other twenty cases so far reported since Baum in 1878 first stretched the facial nerve was given, with remarks upon the operation.

The speaker preferred Baum's method of operating decidedly to Heuter's, in which the nerve is reached through the parotid gland. He bandages the lower jaw and gives fluid food for three or four days in order to keep the parts quiet while healing.

He called attention to two cases in which a palsy existing prior to the operation was benefited by the nerve-stretching, both electrical and voluntary control being obtained to some extent, and he suggested that in persistent facial palsy stretching of the facial nerve be tried as a therapeutic operation.

The discussion of Dr. Keen's paper was postponed to the afternoon session.

Adjourned.

(To be continued.)

THE FIFTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 14, 15, 16, and 17, 1886.

PROFESSOR LEYDEN, PRESIDENT, IN THE CHAIR.

(Special to the THE MEDICAL RECORD.)

WEDNESDAY, APRIL 14TH—FIRST DAY.

THERE was a full attendance at the opening of the Congress of the regular members, of which there are about two hundred, and there were also delegations of physicians from Switzerland and Holland.

The PRESIDENT, in his

OPENING ADDRESS,

said that while fully recognizing the great services rendered to medicine by recent discoveries in the exact natural sciences, it was important to remember that our art—applied medicine—must be practical, dependent mainly upon observation, and inseparable from the experience of former times.

PROFESSOR FRAENTZEL, of Berlin, then read the first paper, entitled

THE OPERATIVE TREATMENT OF PLEURITIC EXUDATIONS.

After a few general considerations, the author divided his subject according to the nature of the different exudations, giving the indications for operation and the mode of procedure in each case.

SERO-FIBRINOUS EXUDATIONS.

The indications for operative interference first given by Trousseau hold good to-day. Traube did much to propagate Trousseau's views in Germany, but it was through Bowditch's discovery of the possibility of uncovering the fluid by aspiration that the operation lost all the dangers that formerly surrounded it. Since 1871, the speaker had removed sero-fibrinous exudations by aspirations in more than four hundred cases, and without a single death attributable to the operation. He used a very small trocar and canula, made on the principle of Emmet's instrument for evacuating cysts, aspirates slowly, and withdraws no more than 1,500 c.c. in the course of half an hour at one sitting. He believed that in this way too sudden re-expansion of the compressed lung, with the symptoms of severe coughing fits, collapse, etc., are almost always avoided. The patient being always in the recumbent position (to avoid fainting), with shoulders slightly elevated, he drives his instrument with a rapid push through the fifth intercostal space on the left, through the fourth on the right side, between the mammillary and axillary lines, never posteriorly to axillary line unless it be for sacculated empyema prior to incision. The vital indications for operation are immense accumulation, suddenly disturbed or impeded circulation, threatening œdema in the lung of the sound side, and symptoms of collapse. In the general run of cases, the author considered it time to operate when the fluid reaches up to the third rib. Unless there be some vital indication, he waits until all fever has left the patient, and aspirates at the end of the second week in children, of the third week in grown persons. He never hesitates to repeat the operation as often as may be required in intervals of three or five or seven days.

HEMORRHAGIC EXUDATIONS.

Where the fluid contains but a slight admixture of blood, he does not hesitate to evacuate the chest, but real sanguinolent exudations should not be operated upon.

EMPYEMA.

In this condition the speaker advised the radical operation by one-inch or two-inch incision, with or without subperiosteal resection of a piece of rib in the same intercostal spaces as above. There should be thorough evacuation and cleansing of the cavity, to be continued until the warm water returns pure; then the

cavity should be washed with a weak antiseptic solution, and well drained, and the wound covered with an antiseptic dressing. The cavity must be thoroughly washed out again whenever the thermometer shows any rise of temperature; when suppuration continues, a broad rather flat silver or hard-rubber canula, without side plate, is introduced, and left as long as may be necessary.

PYO-PNEUMO-THORAX,

when of traumatic origin, is treated by the radical operation, when it is certain that the pleuritic exudation existed prior to the development of gas in the thorax.

PNEUMO-THORAX.

In the non-traumatic form of this affection, when a vital indication demands it, a puncture may be made, but great care must be taken to avoid the ingress of air. The author had seen several cases of pneumo-thorax in which the exudation has remained serous for three months.

With regard to the occurrence of rapidly developing and very large pleuritic exudations, he found that they mostly occur in individuals that are either phthisical or will soon become so—an experience in which all the members who took part in the discussion seemed to agree.

In the ensuing discussion, H. WEBER, of Halle, and FRIEDLER, of Dresden, were agreed that it is unnecessary to wait for aspiration until the patient is free of fever. They had operated in many cases in the second week, and even earlier, and repeated the operation as often as they saw fit, without apparent detriment to their patients. They also evacuated the fluid more rapidly than Fræntzel did, and do not hesitate to remove all, or nearly all, of it a tone sitting. They did not employ a trocar, but a sharp, good-sized aspirator-needle, in which a canula, with large eye on the side of the distal end, can be moved forward to and beyond the cutting point of the needle. To the proximal end of the instrument a tube, consisting partly of glass, partly of rubber, and from two to three inches in length, is attached. The tube, being filled with carbolized solution, is attached to the needle-apparatus, then dipped into a vessel at the bedside also filled with antiseptic liquid. The tube acts as a lever, and by depressing one end of it more or less down into the receiving-vessel, the exudation is withdrawn with varying rapidity and great ease, and no air can possibly enter into the thoracic cavity. The speakers preferred this apparatus to the aspirators generally in use, and have found it to facilitate the operation, making it perfectly safe at the same time.

DR. LITTUC proposed to resect, in the operation for empyema, a piece of the lower margin of one and the upper of the other rib, creating thereby an osseous channel which cannot contract, and would therefore have many obvious advantages. He said he had been pleased with this procedure, but others who have tried it found that they cut the intercostal artery in taking a piece off the lower part of the rib, and had great trouble in securing the bleeding vessel. Should the intercostal artery be injured after taking away an entire piece of a rib, there would be no difficulty in tying the vessel.

PROFESSOR JÜRGENSEN rose to say that for diagnostic purposes he as well as others had often thrust a hypodermic needle into the lung-tissue, and that it was never followed by any bad consequences. As to thoracic fistula in empyema, he had seen a number of cases that led him to believe that there was in consequence of this particular kind of chronic suppuration a great disposition to the development of amyloid degeneration.

(To be continued.)

A POOR JOKE.—Some would-be wag recently sent a check for $5,000 to St. George's Hospital, London, and its receipt was acknowledged with thanks. But upon presentation of the check at the bank it was ascertained that the donor had no account there.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 25 to May 1, 1886.

CORSON, JOSEPH K., Captain and Assistant Surgeon. Granted ten (10) days' extension of leave of absence granted in Orders No. 79, April 15, 1886, Jefferson Barracks, Mo. S. O. 97, A. G. O., April 26, 1886.

WILSON, WM. J., Captain and Assistant Surgeon (Platts-burg Barracks, N. Y.). Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Division of Atlantic, April 27, 1886.

BENHAM, ROBERT B., Captain and Assistant Surgeon. Ordered from Department of Texas to Department of Dakota. S. O. 97, A. G. O., April 26, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 1, 1886.

WILBER, F. W. F., Assistant Surgeon. Detached from R. S. Vermont, and ordered to the Hartford.

TRACY, ELMER C., Assistant Surgeon. Ordered to the Vermont.

WAGGENER, J. R., Passed Assistant Surgeon. Detached from the Hartford, and ordered to the Iroquois.

BRANSFORD, J. F., Surgeon. Detached from the Iroquois, to proceed home and await orders.

KITE, ISAAC W., Assistant Surgeon. To duty at Naval Hospital, Brooklyn, N. Y.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 1, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
May 1, 1886.....	0	2	61	8	23	64	0	0
Deaths.								
May 1, 1886.....	0	0	9	7	1	30	1	0

BINIODIDE OF MERCURY.—The great drawback of the employment of the biniodide of mercury as an external application consists in its insolubility. M. Méhn, Member of the Academy of Medicine in the Pharmaceutical Section, has overcome this difficulty by recommending the salt to be rubbed up with castor-oil, which completely dissolves it. A solution of one part of the salt to fifty parts of castor-oil does not become cloudy. This solution is sufficient to satisfy the exigencies of therapeutics. The addition of iodide of potassium increases the solubility of the biniodide of mercury in castor-oil.—Paris correspondent of *The American Practitioner and News.*

SPONGE MUSTARD-PLASTERS.—Richardson makes use of a simple sponge, dipped in a mixture of flour and mustard, whenever it is desired to apply a sinapism. The sponge, filled with mustard paste, is covered with a moist handkerchief and applied to the part. The same sinapism may be reapplied three or four times without renewing the mustard, simply warming the sponge. When the application is no more desired, the sponge may be washed in warm water, and is then ready for any other use.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 20 NEW YORK, MAY 15, 1886 Whole No. 810

Original Articles.

DIABETIC COMA FROM A CLINICAL STANDPOINT.[1]

BY ROBERT J. DEVLIN, M.D.,

ASSISTANT PHYSICIAN TO THE NEW YORK HOSPITAL, OUT-PATIENT DEPARTMENT; INSTRUCTOR IN DEPARTMENT OF GENERAL MEDICINE, NEW YORK POLYCLINIC.

I INTEND, this evening, to consider a group of symptoms, usually associated with the more severe types of glycosuria, and forming the terminal phenomena in a large percentage of the fatal cases, at least in recent years.

It derives a special interest from the obscurity which surrounds its origin, its, for the most part, unsuspected onset, and the tragic course of symptoms toward a death which seems to be but rarely averted when once the condition has advanced to the stage of coma.

Broadly speaking, we understand by the term diabetic coma a series of symptoms occurring in a patient, the subject of glycosuria, of which the most characteristic are a more or less sudden failure of vital strength, a peculiar dyspnœa, and a condition of mental hebetude tending to progress into fatal coma.

It is certainly remarkable that while diabetes mellitus and its fatal tendency have been clearly recognized by the profession for over two centuries, it is only within the past twelve years that any special notice has been taken of these peculiar phenomena.

Cases of sudden death, preceded by coma, variously ascribed to exhaustion, uræmia, apoplexy, meningitis, etc., have been reported often enough; but details as to the terminal symptoms are scanty, and no reference is made to those we now consider most characteristic. Even when an autopsy was made they are briefly dismissed with the comment that no lesions were found, with the naked eye, sufficient to account for death.

In 1874 Kussmaul[2] published three cases, possessing certain features in common, which exhibited a mode of fatal termination till then undescribed.

Since then a considerable literature has grown up on this subject, and a large number of more or less carefully recorded cases have been reported.

Perhaps, very properly, the pathological has taken precedence of the clinical discussion, but thus far with singularly barren results. At present we have no theory which will satisfactorily explain even a respectable minority of the cases.

It is my purpose to avoid, as far as possible, all reference to disputed pathology, and confine myself to the following clinical features of this so-called complication of glycosuria, in the endeavor to ascertain from the published cases: the class of diabetics most apt to fall into fatal coma; the various causes which seem to produce or precipitate it; the premonitory signs, if there be any of value in predicting its appearance; the onset and course; and subsequently to consider—the occurrence of abortive attacks, and the prophylactic care and medical treatment best suited to limit such cases.

In endeavoring to collect cases from which to obtain data there have been several sources of difficulty.

With the time and facilities at my disposal it has been impossible to collate all the published cases.

When references had been laboriously hunted through the various journals to their original source, they often proved entirely useless for the purpose intended. In many, from failure to mention the presence or absence of certain symptoms, or to note the condition of the chief viscera, the diagnosis was doubtful. In some nothing but the lethal symptoms are given. In others only facts bearing on certain pathological theories are stated. And in the great majority the details, when given, are expressed in such general and indefinite language as to defy any attempt at tabulation. Certain other groups are summarized, often with great clearness, but the individual histories are not accessible.

Even a superficial examination of the fatal cases shows such a wide range of difference in their phenomena that it is desirable, for the sake of clearness, to divide them into various groups, without, however, of necessity implying any essential difference in their pathology.

The division found most convenient is very nearly that adopted by Frerichs.[1]

The first class comprises those which are characterized mainly by sudden onset of collapse symptoms, followed speedily by coma and death.

There seems to be nothing, either in the age of the patient, the duration of the disease, the intensity of the symptoms, the previous medication, diet, or general nutrition of the patient, which specially predispose to this form. The majority of the patients had apparently been doing tolerably well, showing no marked signs of exhaustion or impending heart failure; nearly all of them had been able to be up and about until the seizure; in several cases there is nothing to show that the patients considered themselves invalids; in two cases the diagnosis of diabetes mellitus was only made by post-mortem examination of the urine; sometimes the attack has come on during a period when all the morbid symptoms were improving rapidly.

The exciting cause has usually been some unwonted physical exertion or a long journey. In one case—a patient for some time confined to the hospital ward—it followed great mental depression from the receipt of bad news.

There are usually no premonitory signs; the patient is seized with symptoms closely resembling those of surgical shock, preceded by a sudden profound exhaustion.

There is no pain, very rarely vomiting, no dyspnœa of the kind described by Kussmaul, although the respiration may be somewhat hurried and superficial. The pulse is very feeble and flickering.

There is nothing that can fairly be called a stage of delirium. The patient is rather apathetic, even while still able to answer questions. In a short time he becomes absolutely comatose, and death follows usually within a few hours.

In none of the reported cases is there any mention of an ethereal odor to the breath, or any reaction of the urine with ferri chloridum, such as will be spoken of later, although several are reported by observers who in other cases have noted these phenomena.

The indications as to prophylaxis are obvious enough, but unfortunately there seems to be no way by which to distinguish such cases in advance from those which live for years, enduring the ordinary fatigues and excitements of daily life, to which certain others succumb so readily.

Perhaps systematic physical examination of the condi-

[1] Read before the Section on Practice of Medicine of the New York Academy of Medicine, April 20, 1886.

[2] Deut. Archiv f. klin. Med., xiv., 1.

[1] Zeitschrift für klinische Medizin, 1883, vi., S. 2.

tion of the heart and the use of the sphygmograph should be a routine procedure in diabetes, and the indications thus afforded may prove of value; but I have been unable to find any observations bearing on this subject.

It is not at all evident that the class of cases above mentioned have much in common with the variety described by Kussmaul, and to which perhaps the term diabetic coma should be restricted.

In all exhausting diseases which profoundly modify the conditions of nutrition, terminal phenomena are occasionally met with which are scarcely distinguishable from the above, except in the one feature of glycosuria. Sudden death from contracted kidney, with so-called uræmia, might be instanced.

By far the greater number of cases of diabetic coma fall into the second class, and exhibit phenomena having a remarkable likeness to the effects of an organic poison.

If we seek to discover the predisposing causes which influence—or, perhaps more accurately stated, the conditions which precede and appear to influence—the occurrence of this form of sudden death in diabetes, we shall enter upon a task of exceeding difficulty; for no statement can be made which is not challenged by numerous recorded exceptions.

Nevertheless there are certain factors which are sufficiently constant to give them a considerable value in prognosis.

Systematic treatises on diabetes recognize two types of the non-symptomatic cases. One is characterized by an ability on the part of the organism to assimilate at least a small amount of carbohydrate food. Such are free from glycosuria and its attendant evils when the diet contains a minimum quantity of such elements. Hence they are to a certain extent amenable to treatment. The other class of cases excrete sugar in excess of the quantitative equivalent contained in the food, and even when such elements are entirely withdrawn. These latter tend to every variety of fatal termination with much greater rapidity than the former.

This division, while convenient and of great clinical importance, is nevertheless quite artificial, for many cases pass from one to the other form at different periods of their history, and but few are observed with an accuracy which gives much confidence in the results stated. However, it would seem that death by coma is a more frequent termination in the severe than in the mild types; at all events such is noted in those which are under continuous treatment.

In a large number which have come under observation but a few days before the onset of coma, and in which rigorous treatment was adopted at once, the sugar has suddenly disappeared—its disappearance being shortly followed by grave symptoms. Of course, we are in doubt whether to class such cases as of the first type, or to attribute the disappearance of the sugar to the same unknown cause which determines the coma. Especially when we see that in certain cases under close observation but very lax dietary, the same diminution or disappearance of both the glycosuria and the polyuria has also preceded the fatal symptoms.

This subject will again be referred to in discussing the effect of diet.

The element of age has always been regarded as very important, namely, the younger the patient the more likely is death by coma.

Mackenzie,[1] in analyzing thirty-seven consecutive deaths from diabetes in the London Hospital, remarks, that with one exception all dying under the age of twenty-five years died of coma. Dreschfeld,[2] in an analysis of fifty cases, the details of which I have not been able to find, remarks that it occurs chiefly in early life. I have tabulated ninety-eight cases in which a definite statement is made as to the age, and find that the average is twenty-nine and two-thirds years. And in twenty-two other cases in which no exact statement is made, eight are designated as adults, nine as young, one each as middled-aged, boy, and child, and in two no hint is given. The extremes are a case reported by Dr. Schmitz, of Neuenahr,[3] aged seven years, and one reported by Dr. Quincke,[3] aged sixty-two years.

For comparison I have computed the average age of the fatal cases from all causes given in the clinical appendix to Siegen's[5] treatise on Diabetes, and those given in a table of all the deaths which occurred in New York City from diabetes, during a period of three years and three months, taken from a paper read before this Academy by Dr. Gouverneur Smith[4] in 1871, giving a total of ninety-five deaths and an average age of forty-nine years. No cases are included in both lists.

Any statement as to the duration of the disease is open to serious doubt, since the early history of diabetes is in general made up of very indefinite symptoms, and the diagnosis is rarely made until the condition has existed for some time. The histories I have examined afford very little information that is worth stating in figures. Nevertheless it is quite evident that as a class comatose cases are those which present an acute invasion and rapid progress of the usual diabetic symptoms. Southey[6] reports a case in which polyuria was suddenly developed two weeks before the patient—a girl, aged seventeen—came under observation; five days later death ensued by coma.

I have seen a case of still shorter duration, in which only sixteen days elapsed between the sudden onset of polyuria and the fatal termination. This patient was a boy, twelve years of age, who came under observation only two days before death, and after the onset of the comatose attack. He had not been under treatment, and from the time he was first seen the anorexia was complete. With these may be contrasted the case reported by Quincke, and referred to above, in which the patient was a man, aged sixty-two, diabetic for ten years, during which time the disease was held in check by dietetic treatment. He died within twenty-four hours after the onset of the attack, which, we are led to infer, was the result of excesses in diet, although this is not explicitly stated.

In these cases we have illustrations of extreme variations of age of patient, duration of the disease, and severity of type, with a similar mode of termination.

Pavy,[6] Taylor,[7] and others, call attention to the fact that those cases which terminate in coma are in all but a few instances free from pulmonary complications, or, at any rate, are free from the rapid form of phthisis frequently termed diabetic.

On this point the following statistics may be given: In 133 cases the lungs were stated to be normal in 82, phthisis was present in 14, pneumonia in 7, bronchitis in 2, pleurisy with effusion, 1. In 27 no record was made.

These figures are in part drawn from physical examination and in part from accounts of autopsies, when such were given. Of course the accuracy of the former data may be questioned. The following are those based on autopsies—bronchitis, pleuritic thickenings, hyperæmia, and œdema of the lungs being accounted as negative: Pulmonary changes found in 30; lungs normal in 30. In 45 unselected autopsies of diabetics given by Siegen the lungs were found to be normal in only 12, judged by the above standard. In by far the greater number of cases the patients exhibited the usual symptoms in a well-pronounced form. Emaciation and failure of strength had generally advanced to a profound degree, although there are exceptionally cases which showed very little depreciation of the general health and body-weight.

[1] Brit. Med. Journ., April 7, 1883.
[2] Ibid., October 29, 1881.
[1] Deut. Med. Woch., 1881, S. 80.
[2] Berl. klin. Woch., 1880, S. 1.
[3] Der Diabetes Mellitus. Berlin, 1875.
[4] New York Med. Journ., vol. xiii.
[5] Lancet, February 8, 1879.
[6] On Diabetes.
[7] Guy's Hosp. Rep., xxv., p. 147 et seq.

Many were capable of active exercise, and even hard work, up to the last few days, or, in some cases until the actual onset of the symptoms. In a few the general health had continued so good that the diagnosis was only made post-mortem.

Observations as to the occurrence of albumen and casts in the urine, and the results of minute post-mortem examinations of the kidneys are not sufficiently numerous or systematic to warrant any general statement. In cases in which any record is made of the presence or absence of albuminuria before the attack, it is more frequent to record its absence. When albumen, in any notable amount, and casts have been found in cases of diabetes which terminated in coma, it is usual to state that the death was by uræmia, chronic Bright's disease, nephritis, etc., and to omit all details.

Hence we may infer that in cases reported as diabetic coma these appearances have not been present, or perhaps have not been looked for. More accurate observation in all cases of glycosuria is needed to settle this point.

The onset of urgent symptoms has been attributed to a great variety of exciting causes, the most constant of which are sudden fatigue or nervous excitement, intercurrent disease—particularly of a suppurative or gangrenous character—bronchitis, injudicious use of opium, insufficient supply of fluids, and lastly, errors in dietetic management.

Certain other elements, such as gastro-intestinal disturbances, neuralgias, and the like, may be regarded either as exciting causes or merely as prodromal symptoms. There are other cases which arise in the absence of any assignable cause, and when the patient's condition and environment have undergone no recent changes.

Of all the causes above mentioned, fatigue has been set down in the greatest number of cases, and yet the more closely we analyze the circumstances the less satisfactory will appear the reasons.

There seems no doubt of its potency in the class of cases first mentioned, in which the clinical picture is simply heart failure and collapse; but in those we are now discussing we must look further for the causes to which fatigue or mental excitement may act as an adjuvant. A journey to a hospital or to see a celebrated physician is shortly followed by bad symptoms. But patients in chronic diseases, as a rule, do not enter hospitals or undertake long journeys to consulting physicians or health resorts until symptoms arise which lead them to lose confidence in their former advisers. How many histories begin with: "While feeling tired and out of sorts he undertook to walk," etc.?

When we consider that patients are apt to set a higher value than their physicians upon the presence of vague symptoms, such as malaise, general tired feeling, loss of appetite, oppression about the chest, which often are the first premonitory symptoms, we can easily believe that these have been underestimated by the reporter who states that the patient left home in his usual health. When the connection between fatigue and coma seems unquestionable, the sequence is almost immediate. In many of the cases the physical exertion assigned as the cause is so slight that, if we ascribe much importance to this factor acting by itself, we may do harm by forbidding the exercise which is so helpful to the proper assimilation of a highly nitrogenous and at the same time superabundant diet.

Indeed Jaenicke [1] is disposed to attribute the relative frequency of nervous complications in those cases which are observed in hospital practice to the fact that the lack of exercise, combined with an exclusive animal diet, forming a sharp contrast to the previous mode of life, leads to faulty metabolic action.

However, fatigue as well as nervous perturbations, and perhaps more justly surgical injuries, carbuncle, alveolar abscess, suppurative otitis, gangrene, bronchitis, and the like, may be said to precipitate an attack of impending coma in the same way that similar accidents may precipitate uræmic phenomena.

Some of the English authorities have set down the use of opium and its analogues in the list of causes.

Dickenson [1] believes that opiates exert an injurious influence by favoring dyspepsia and constipation.

Fagge [2] believes that opium, used to control diarrhœa or pain, can be held responsible for some of the deaths.

However, since the opiates were used to combat symptoms which we shall soon see may belong to the first stage of the attack, and since the subsequent progress of the cases differed very much from opium narcosis, I think that we need not be deterred from a cautious use of the only remedy which will relieve the agonizing pain so often present.

The effect of diet can be more conveniently discussed in a later section.

The premonitory symptoms are very varied. Sometimes for a period of weeks the patient will have mild dyspeptic symptoms, alternating with periods of improvement. The appetite is almost always markedly lessened; any reduction below the standard for a healthy person should be looked upon with suspicion. The patient who has been constipated begins to have unexplained loose movements, sometimes a profuse diarrhœa; or the bowels, previously tolerably regular, become obstinately constipated. Especially during the latter condition a peculiar odor to the breath is developed, which has been variously likened to decaying apples, sour beer, chloroform, etc. In these early stages it is never very pronounced, but during the fully developed attack often pervades the whole vicinity of the patient, and even extends to adjoining rooms. Acid eructations and nausea, with or without vomiting, are sometimes noted. Accompanying these gastro-intestinal symptoms there is often a peculiar sense of general prostration; the patient is disinclined to all exertion, physical or mental. There is a tendency toward drowsiness during the day, and the patient is often very despondent. Attacks of intense vertigo, frontal headache, neuralgic pains in various regions, are quite common.

A very constant symptom is an accelerated pulse, with or without decrease in volume.

The urine is usually diminished and the percentage of sugar reduced. An increased acidity has been noted. In a large number of cases, even during this stage, the urine strikes a reddish-brown color on the addition of ferric chloride.

Sometimes, when the amount of urine, the percentage of sugar, and the excessive appetite are suddenly reduced, with the other premonitory signs but slightly marked, the change is attributed to successful treatment, which notion is rudely dispelled by the speedy onset of cerebral symptoms.

Any sudden improvement in the objective signs which is not confirmed by the subjective sensations of the patient should put the physician on his guard.

After a variable period of such indefinite symptoms as have been described, the patient begins to complain of a feeling of depression, is restless at night, eats nothing; if constipated, takes the usual laxatives without result, complains of colicky pains through the abdomen, which may be distended with gas, or perhaps retracted. There is a sense of constriction about the thorax which causes the patient to breathe more deeply than usual. He vomits from time to time, usually in connection with paroxysms of epigastric pain, but without obtaining relief. The vomited matter is usually scanty and greenish, often having the peculiar odor of the breath. The patient tosses about in bed; if able to be up is unsteady in gait. Sometimes the vertigo is too intense to allow him to rise from a horizontal position, although the muscular strength may be sufficient.

[1] Deut. Arch. f. klin. Med., xxx., S. 135.

[1] Urinary and Renal Affections, Part 1. [2] Guy's Hosp. Rep., vol. xix.

The mental condition varies from excitability to mild talkative delirium, alternating with drowsy or stupid intervals. Even during the latter the patient can be readily aroused to take drink or medicines, and will answer questions in a dazed sort of way.

When he rouses spontaneously, it is usually the result of a paroxysm of abdominal pain which causes him to cry out. Examination of the abdomen fails to give any adequate explanation of this symptom.

Gradually the intervals of consciousness become fewer and shorter, and the patient lies quietly, with partly closed eyes, and can only be roused by loud noises or violent shaking. Finally the coma becomes unbroken, although in a few cases the patient has had brief returns to consciousness, during which he has been able to answer questions with a certain degree of intelligence shortly before death.

When coma is once fully established, the power of swallowing fluids is usually lost. In a few cases there have been convulsive twitchings of the facial muscles at the time of death. I can only find three cases in which there were general convulsions. One, a typical case in other respects, reported by Dr. Murrell;[1] another, reported by Dr. Fürbinger,[2] in a case in which, some time before death, the glycosuria was replaced by oxaluria of high intensity, the patient dying with symptoms resembling diabetic coma, but considered by the author as due to oxalic-acid poisoning; and a third, reported by Dr. Schmitz,[3] in a child, aged thirteen, in which the gastric symptoms were especially pronounced.

During the progress of these cerebral symptoms, and often preceding their full development, there is the peculiar dyspnœa so frequently alluded to. Its characteristic feature is an exaggerated respiratory effort, independent of the patient's volition, and not due to any obstruction to the entrance or exit of air to the lungs, or the free access of air to the pulmonary vesicles.

Cyanosis is slight or entirely absent. The respirations are generally quickened, but regular at first, and later in the progress of the case both the frequency and the depth of the inspirations may undergo a rhythmical variation similar to that known as Cheyne-Stokes.

The expiration has an expulsive character, amounting to a sigh, from time to time intensified to a loud groan.

The accessory muscles of respiration are all brought into play, and the picture resembles that of an unexperienced runner after a sharp spurt.

During the attack the quantity of urine secreted is almost invariably diminished. Occasionally there is complete suppression. During the stage of coma retention is usual, sometimes incontinence, which will frequently be found due to overflow.

The amount of sugar in cases in which careful record has been kept is found to be markedly reduced, often absent.

Albumen in small quantity is usually, but not invariably, detected.

In all but a few of the cases in which the test has been made, the reaction with ferri chloridum is observed.

In a smaller number of cases a peculiar odor to the breath develops, which has been so differently described as to lead to the belief that it is not the same in all cases. It was present in each of the three cases I have seen, and closely resembled the odor produced by shaking up a small quantity of chloroform with a few drops of acetic acid in a little water.

With the exception of the muscles of deglutition, no paralysis seems to have been noted. In one of my cases there was marked rigidity of the muscles of the lower limbs, separation of the knees requiring all the force I could exert; when released they slowly returned to firm adduction. Flexion and extension at the knee resisted, but not so strongly.

The condition of the pupils is not characteristic. The absence of patellar reflex is often noted, but this probably belongs to an earlier period of the disease.

Cutaneous anæsthesia seems to be quite common.

The temperature, in the absence of complications, is generally subnormal. In one case I have watched it rise from the normal at the beginning of the attack to 106.4° F. in the axilla, the last record being made one hour before death—the total duration of the pyrexia being about twelve hours. No complication was detected by careful and repeated examinations.

A certain number of cases exhibit a mode of onset and course which differs in so many respects from the above type that Frerichs assigns them to a separate class. They are characterized by a comparatively sudden onset; there are no premonitory symptoms that are sufficiently definite to deserve mention; they are preceded at a short interval by a more or less obvious cause, such as a carbuncle, a gangrenous toe, or the patient is seized immediately after some violent exertion or excitement, running to catch a train, or an outburst of anger, for example. The first symptom is usually headache or vertigo, followed by a condition so closely simulating alcoholic intoxication that the majority of cases have been mistaken for drunkenness until investigated. The patient passes rapidly into a stupid condition, merging into fatal coma. There may be no dyspnœa, nor are the pulse and muscular strength so notably affected at the outset as in the other variety.

I do not think that this class deserves an extended description. The type is ill-defined, and but few examples can be found which conform to it. In the ordinary form exceptional cases are met with in which dyspnœa is not well marked, and the pulse remains fairly good until just before death. In a great many cases the delirium has been noted as resembling alcoholism.

I have recently had charge of a case which presented some unusual features which merit being put on record.

The patient, a boy, aged sixteen years, whose family history is exceptionally good, had suffered from occasional incontinence of urine for about three years.

There does not appear to have been any actual polyuria, and with this exception he seemed to be perfectly well until about ten months before his death, when, without any history of traumatism, or any obvious cause, unless perhaps an immoderate indulgence in athletics, he began to fail in health, and was noticed to pass an increased quantity of urine. About five months later, these symptoms having meanwhile slowly increased, he became much worse, apparently as the result of a day of excessive fatigue and excitement. At its close he was seized with severe cramps in the legs, which lasted all night; and the flow of urine suddenly rose to twenty pints. Examination of the urine being now made for the first time, sugar was detected. After a period of several weeks, during which he was not under treatment, and in which the ordinary symptoms of severe glycosuria developed, he was put on strict diet, continued for six weeks, but without any improvement.

From that time ordinary bread, to the amount of several ounces daily, was allowed, but in other respects a pretty strict diet was maintained.[4]

For three months previous to the time I first saw him he had been taking a secret remedy, which apparently consisted of salicylate and bicarbonate of soda, with bitter tonics, acid drinks, and a considerable quantity of glycerine daily. During this period there was nothing special to note except a gradual failure of flesh and strength. The amount of urine remained as before, until three weeks before my first visit, when it suddenly diminished to a daily average of ten pints, and exhibited very marked fluctuations from day to day. On examination I found him extremely emaciated, his weight having been reduced at least one-fifth from his former standard. Had voracious appetite and great thirst, dry skin, a few small furuncles; caries of the teeth, several of which are loose; no odor to breath except a slight sweetish quality; axil-

[1] British Medical Journal, November 26, 1881.
[2] Deut. Arch. f. klin. Med., xvi., S. 499.
[3] Loc. cit., p. 81.

lary temperature, 96½° F.; heart and lungs normal to physical examination; myoidema very well marked; pulse, 108.

Examination: Urine 1.036, very strongly acid, no albumen; sugar, thirty-two grains to the ounce; passed one hundred and sixty ounces in the twenty-four hours. Microscopic examination negative. In view of the gloomy prognosis which I gave, the family asked to be allowed to continue the remedies already in use. For some symptom which I do not now recall, I prescribed am. bromid., gr. xv., t.i.d. During the next week the urine averaged one hundred and fifty-three ounces daily, but with wide daily fluctuations. Several examinations showed the percentage of glucose—six and one-half—to be pretty constant.

At the end of this week I was called to see him again, and found that he had been suffering from a small alveolar abscess, which had kept him in a restless condition. This was now discharging freely. He also complained of supra-orbital neuralgia on one side, which had kept him awake during the first night. Stopped am. bromid. Calx sulphid., gr. ¼, 5 in diem.; codeia, gr. ½, t.i.d. Examination: Urine one hundred and forty-four ounces, 1.031, specific gravity; sugar, twenty-six and one-half grains to the ounce, no albumen; reacts to ferri chlorid. feebly, which was at that time attributed to the salicylate which patient was taking, and which was then ordered to be discontinued. Three days later I was called again, and found that the supraorbital pain had disappeared soon after the last visit, and that he had been tolerably comfortable, although very weak and disinclined to eat, until eleven o'clock the previous night, when he was suddenly seized with severe pain in the left hypochondrium. Bowels have not moved in two days. Customary dose of compound licorice powder given yesterday has had no result. Urine in last twenty-four hours one hundred and forty-four ounces.

Examination at 11 A.M.—Pulse, 120; respiration, 18. Chloroform odor to breath, which friends state has been noticed several times before when bowels were constipated, but not so intense as at present. Seems slightly delirious at times. Pain continues in paroxysms. Examination of abdomen negative, except increased fulness over seat of pain. Ordered magnes. sulph., ʒ ij. q. 1 h., till bowels move. Codeia, gr. ½.

1.30 P.M.—Has been slightly drowsy, but is now quite excited; pain severe, pulse very rapid and weak. Stimulants ordered. Breathing has become suspiciously deep, but not increased in frequency.

2.30 P.M.—Enema given without result.

5.30 P.M.—Severe pain. Codeia, gr. ½. Breathing labored, eighteen to minute. Is only semi-conscious. Temperature, normal; pulse, 150.

8.30 P.M.—Has passed no urine since morning. Catheterized, and thirty-two ounces obtained, which contains ten per cent. of albumen, estimated by precipitate on boiling.

Subsequent examination showed gr. 1¼ to ʒ j. by weight, and glucose gr. xv. to ʒ j. Faint reaction of urine with tr. ferri chlor. No acetone by Ralfe's test. Patient cannot be fully aroused. Chokes in swallowing.

Has now taken nearly ʒ ij. of magnes. sulph. and one seidlitz powder without result, and purgatives were now discontinued.

9.30 P.M.—Rectum cleared of semisolid fæces. Stimulants given hypodermatically. Is fully comatose. Oxygen was now administered by continuous inhalation, the delivery tube being passed well back in the mouth. Chloroform odor, which had become so intense as to pervade the entire cottage, was markedly diminished, but the respirations are deepened. Rigidity of lower limbs and tendency toward adduction noticed. Skin is distinctly warm to touch.

Midnight.—Oxygen has just been suspended for a short time. Respirations have a cycle of frequency, which is inversely as the depth, with total duration of twenty to forty-five seconds. Pulse, 150. Examination of chest negative.

1 A.M.—Oxygen acts promptly as a stimulant to the pulse, but has no good effect on the breathing. Incontinence of urine. Bladder found empty when catheterized. Cups applied over kidneys. Temperature in axilla 102½°. Other conditions unchanged. Oxygen continued at intervals merely as a cardiac stimulant. No evidence of cyanosis. Swallows fluids in small quantities if placed well back in pharynx, but with a good deal of choking. Pupils symmetrical, react well, but undergo a rhythmical contraction and dilatation. Every third expiration intensified into a loud groan, while the others are simply noisy. They are chiefly thoracic; the groaning expiration follows a peculiar spasmodic inspiration of extra depth, which calls into play the accessory muscles in the neck, and results in a bending back of the head and a depression of the lower jaw. Respirations 24 to minute.

4 A.M.—Temperature in axilla 105⅛°. All treatment discontinued. Examination of chest negative.

5 A.M.—Temperature in axilla 106⅝°. Pulse failing rapidly. Respirations are diminishing in intensity; less moaning. No cyanosis.

6 A.M.—Patient died quietly. No convulsive movement, except that eyes opened widely for a few seconds and then closed. No autopsy obtained.

In this case the marked depreciation in the patient's condition had made his family very anxious to have him removed from their summer cottage to the city, that he might be under closer medical supervision. Had this been done, the journey would probably have been held accountable for the fatal attack. Preparations had been made to perform transfusion, in case the use of oxygen was unsatisfactory; but in an isolated country cottage, and with all the attendants so prostrated by nervous excitement as to make them unavailable, this was out of the question, even had the pyrexia not been considered to be a contra-indication.

The effect of the oxygen on the pulse and the breath odor suggests further trial of this agent as an auxiliary in treatment.

Diabetic coma is too often regarded as simply a very interesting complex of symptoms ending in death.

There are numerous recorded instances of symptoms presenting too close a coincidence with those of diabetic coma, in its earlier stages, to permit us to doubt their nature, which have disappeared spontaneously or by treatment, and left the patient no worse off than before. And it is to these cases that we are chiefly indebted for an opportunity to study the causes and treatment of this condition.

Foster,[1] Schmitz,[1] Frerichs,[1] Jaenicke,[1] Jaksch,[2] Quincke,[2] and others give histories of diabetics which detail the appearance of symptoms of general prostration, malaise, anorexia, headache, vertigo, vomiting, abdominal pain, delirium alternating with drowsiness or stupor; deep, labored respiration, aromatic odor to breath, associated with the excretion of a substance in the urine giving the red reaction with chloride of iron. In certain cases the resemblance of the delirium to alcoholic intoxication is specially noted, and in a few cases there was recovery after a stage of complete unconsciousness.

Several of the patients died at a later period with the usual comatose phenomena, which, up to a certain point, were identical with those of attacks they had previously recovered from.

It would be interesting to repeat some of these histories in detail, but the limits of this paper do not permit. It must suffice to consider a few of their most striking lessons.

The most obvious is, that in them the history of previous fatigue or over-exertion rarely appears.

[1] British Medical Journal, 1878, vol. i., p. 79.
[2] Arch. f. Heilkunde, 1882, Bd. iii., S. 17.

They were, for the most part, well-pronounced cases of diabetes, under treatment in hospital by the usual dietetic measures, and in almost every case the starting-point seems to have been in some digestive derangement. Now, diabetics as a class are not apt to suffer from the ordinary symptoms of dyspepsia, at least while on a mixed diet; and if we look into the particulars of these cases we shall find, in the great majority of instances, either that the patient, while pursuing a more or less restricted diet, suddenly consumed a large quantity of sugar-forming food, and was then seized with vomiting, etc.; or that the diet had been suddenly and sharply restricted, and in a few days anorexia, headache, drowsiness, etc., appeared; or that the attack began after a prolonged deprivation of carbohydrate food, with somewhat insidious onset.

Of the first class Schmitz narrates two cases which recovered quite promptly when the intestinal tract was thoroughly emptied by large doses of castor-oil, although the condition had reached a high grade of intensity. In these cases it is interesting to note that the sugar disappeared from the urine during the attack, and did not return till convalescence began.

Of the second class Jaenicke and Ebstein give cases which show a sudden onset of nervous symptoms immediately following a change to absolute meat diet, and disappearing promptly when the diet was relaxed.

Of the third class, in which the strict diet was tolerated for a considerable time, there is no good instance of the development of very intense symptoms. Usually the patient rebelled when the early symptoms appeared, or the treatment was modified with good results; sometimes because the physician feared coma, having regard to previous experience, as in a case by Jaenicke;[1] sometimes on general principles, in view of the evident derangement of digestion, and the onset of extreme prostration.[2] If we attempt to ascertain the influence of diet upon the one hundred and thirty odd cases of fatal issue, we are met by the fact that in only a very small number is any precise account given of the dietetic management. In a few of the cases it is noted that death seemed to have been accelerated by too strict dieting.

Cyr[3] mentions a case in which, while under treatment, various threatening symptoms appeared from time to time, and were relieved by allowing a moderate quantity of carbohydrate food, and thereby increasing the excretion of sugar and water.

Ebstein[4] makes a similar observation, and explains it in much the same way that uræmic manifestations are accounted for. Some toxic substance is developed within the organism, under certain influences which we cannot define, but so long as the kidneys are functionally active and the excretion of urine is not unduly diminished by treatment or otherwise, this agent is eliminated freely; when it is very rapidly formed or is retained the severe symptoms follow.

A careful survey of the many circumstances under which coma and its allied symptoms have arisen, as well as the conflicting results of experimental and pathological investigation, can only lead to the conclusion that there are many and diverse conditions producing symptoms having a general resemblance. Yet there is one element which seems to stand in a causal relation, whether it be primary or secondary, to the greatest number of cases, and that is gastro-intestinal derangement.

The digestive apparatus, it is true, seems to adapt itself to almost any conditions that are imposed upon it, provided the modifications be made gradually. But let an unusual strain be put upon this mechanism, which has been overburdened with work, poorly supplied with nervous force, and nourished by an abnormal blood, whether the strain be irregular nerve-supply from excessive bodily fatigue or mental excitement, the confinement of the patient to a hospital ward, abrupt changes of diet, a persistence in some unusual food-supply, or the advent of some complicating pathological process, then will this violence in all probability determine the faulty transformation which results in the toxic agent.

The further history of the case will depend on the relation which exists between the quantity of the morbid product and the ability of the organism to eliminate it.

Such, at least, seems to be the fair inference to be drawn from the clinical histories.

Heretofore but very brief allusion has been made to the frequent presence in the urine of a certain something which gives a reddish-brown reaction with ferri chloridum.

This reaction is now believed to be due to diacetic acid.

Concerning the origin and significance of this and certain other related compounds, a good deal has been written, and numerous painstaking observations have been made with very discordant results.

The following statements may be given as comprising the facts of most practical interest with reference to diabetic coma:

These bodies seem to result from a decomposition, occurring probably within the alimentary canal, which, except perhaps in minimum amount, is always pathological. The exact conditions which determine this decomposition are unknown, but they seem to be most favorable during early life. The excretion of these products has been occasionally observed in a variety of morbid conditions, among which are acute alcoholism, the exanthemata, pneumonia, cancerous cachexia, sulphuric-acid poisoning, meningitis, typhoid fever, and most frequently in diabetes mellitus. While bearing no constant relation to any special class of cases, or form of diet or medication, this phenomenon is more frequently observed in severe cases, in young patients, and in those pursuing a strict nitrogenous dietary.

Their appearance in diabetes may not necessarily be accompanied by any change in symptoms; yet a large percentage of cases of coma arise in patients who are excreting substances in the urine.

No special significance can as yet be attributed to the presence or absence of acetone, when diacetic acid is present, and occasionally acetone may be present in urine which does not react with ferri chloridum. Neither of these substances will reproduce the symptoms of diabetic coma, if administered experimentally.

I do not think it is permissible to draw any inference from the innocent nature of excreted substances, as to the relation of their appearance to the morbid phenomena. Neither albumen nor glucose are poisonous, and yet their excretion is closely related to serious symptoms.

The chemical transformations which occur within the animal body are usually much more complex than the formulæ which we employ to represent them. It is by no means improbable that during a decomposition, some of the ultimate products of which we detect in the urine, toxic influences are developed which are the true cause of the symptoms.

Routine tests with ferri chloridum should be made at short intervals in all cases of diabetes.

Add a few drops of a solution of ferric chloride to the urine in a test-tube, and if from excess of phosphates the iron is precipitated in sufficient quantity to obscure the reaction, filter the contents of the tube, and add a few more drops of the reagent to the clear fluid; if diacetic acid be present, a coloration results varying from a light claret to an opaque reddish brown. This color is dissipated by heating, and will not appear if the urine has previously been boiled. The solubility of the color thus obtained in ether is insisted upon by Jaksch as an additional test to exclude the presence of salts of formic and acetic acid, which give a similar reaction in other respects. But it does not seem that from the standpoint of clinical significance this distinction is of much importance.

[1] Deut. Arch. f. klin. Med., xxx., S. 112.
[2] Arch. Gen. de Méd., 1878, vol. i., p. 51.
[3] Harnack, ib., xiii., S. 609.
[4] Deut. Arch. f. klin. Med., xxviii.

When the above reaction is obtained it is desirable to ascertain the presence or absence of acetone by some of the approved methods, in order that the record may be complete.

These tests are of importance on account of the pathological theories which the presence of these substances has suggested, and also because they afford in a great many cases valuable warnings of impending danger. But there is great need of further observation to determine just how great that value is, and also how frequently and under what other conditions these bodies may appear in the diseased, and perhaps also in the healthy organism.

During the past three months I have examined about three hundred specimens of urine with this object. Among them were six cases of diabetes, which were pursuing an uneventful course. Of these six I obtained a reaction in one case only, and that in four specimens covering a period of ten days. Tests for acetone made by the iodide of potassium and caustic potash method gave no result either in the urine or in the expired breath. There was no albuminuria.

These specimens were obtained through the kindness of the house staff, from a patient at St. Luke's Hospital, a man, aged thirty-two, diabetic for about fifteen months, who had been on pretty closely restricted diet, with codeia in doses gradually increased from one and one-half to eight grains daily, for about six weeks. During this time all the symptoms had improved, the patient had gained in weight, the polyuria had been reduced from about two hundred to one hundred ounces daily, and the sugar percentage from five to two and one-half.

During his stay in the hospital he had short periods of marked drowsiness, but this symptom was not present at the time the above tests were made. There were no dyspeptic symptoms, and the bowels were regular. He left the hospital soon after. (See note at end for further history.)

The five other cases were all adults, having from two and one-half to seven per cent. of sugar and well marked polyuria. They were either on ordinary or very slightly restricted diet, all able to be up and about, and in fairly good condition. The results in these cases were entirely negative.

The other cases included of special pertinence a pneumonia in the first stage, a case of advanced cancerous cachexia, an acute alcoholic gastritis, several cases of acute follicular tonsillitis, a dilated stomach, a large number of the usual dispensary cases of chronic dyspepsia, one case of chronic uræmia with prominent gastric symptoms, and the remainder were from the usual routine examinations. With the exception above noted no reaction was obtained. I regret that the number of specimens obtained from children was small, and that no cases of the exanthemata were available.

Unquestionably there are deaths, preceded by coma, in diabetes which can be explained by manifest lesions of the chief viscera; their symptoms and progress need no special comment. However, it is probable, from the endless variety seen in comatose cases, that there are many which are difficult to class in the absence of a careful autopsy; and it is to such cases that we owe a good deal of the confusion which marks any discussion on this topic.

The diagnosis must be reached by a careful process of exclusion, which will often be attended with great difficulties, and sometimes, in the absence of previous history, it may be impossible. Cases seen for the first time during an attack, and nothing being known of the previous history, have been mistaken for alcoholism, hysteria, peritonitis, cerebral injury, uræmia, narcotic poisoning, or internal hemorrhage, according to the symptoms most prominent. When we recollect that there may be suppression of urine and absence of glycosuria, the mistakes are easily accounted for.

The ordinary treatises on the practice of medicine seldom give more than a passing notice of this subject, and omit it altogether from the discussion of differential diagnosis in diseases liable to be complicated by coma.

In the treatment of diabetes mellitus, with reference to the possibility of this complication, there are certain precautions which seem to be desirable from the considerations which have been advanced.

The most prominent of these is the necessity of paying a close attention to the condition of the alimentary tract; the avoidance of sudden changes in dietetic management; the allowance of a certain, though small, quantity of carbohydrate food in those cases in which a fair trial has demonstrated that strict diet does not completely arrest the glycosuria; the free allowance of fluids in all cases, for there is everything in favor of considering the polyuria as a conservative factor. All sudden changes in mode of life are dangerous.

When complications arise the diet should be relaxed, particularly when the ferric chloride reaction appears.

On the appearance of symptoms suggestive of a comatose attack, in addition to the above, free and repeated purgation should be employed, guarded by suitable stimulant measures. For the relief of pain opium must be used on ordinary principles.

For those cases in which the condition has advanced to any marked degree, repeated transfusions of salines, or, perhaps better, of blood, the continuous inhalation of oxygen, the administration of antifermentatives and stimulants seem to offer the best hopes, judging from the partial successes which have been attained. To these, measures which promote diuresis should be added.

Although the treatment of this condition has been very unsatisfactory, yet, in view of the many cases which have recovered from a perilous position, there are none which should be abandoned, even after coma has set in.

The great fatality of diabetic coma, the obscurity of the causes which bring about its occurrence, and the importance of estimating at their proper value the indefinite symptoms which seem to be premonitory should urge us to closer observation in all cases of diabetes. The terminal phenomena are interesting, but much less valuable than a careful record of the previous history; and it is in this particular that the existing literature is barren.

How many patients live daily on the verge of comatose catastrophe, and escape it by the happy chance of judicious treatment, or perhaps because they disregard all recognized rules, we shall not know until we can read the natural history of the disease in fuller details.

NOTE.—Since the completion of the above paper, and only a few days ago, I secured the address of the patient referred to above as showing the ferric chloride reaction while pursuing an apparently very favorable course of the disease, and undertook to hunt him up for the sake of making further tests of the urine. I then learned that he died about three weeks after leaving the hospital, with symptoms which tend to confirm the value of the test referred to.

The following history was obtained from his family, and great care was used in framing the questions to avoid suggesting symptoms:

After his return from the hospital, on March 9th, he continued the hospital diet very carefully. It is said that the only lapses were in the use of an occasional oatmeal cracker.

March 15th.—His appetite suddenly failed, and he felt out of sorts generally. Nevertheless he paid a visit to some friends in a part of the city about two miles distant from his home, making use of the horse-cars, so that he walked in all about one mile. On his return in the evening he was very prostrated, ate nothing, and passed a very restless night, complaining of a burning pain in the epigastrium. Whether he had eaten anything unusual during the day could not be ascertained.

March 16th.—He was very drowsy, sleeping a good deal of the time, and during the intervals walking restlessly about his room. Ate nothing. Pain continued;

very great diuresis; passed over a pailful of urine during the day. Marked "heavy" odor to breath, which the relatives, when asked if there was any special odor they could compare it to, promptly mentioned a liniment which on examination proved to be the ordinary chloroform liniment. During the night continued to suffer from pain and restlessness.

March 17th.—In the morning able to go down-stairs and across the street to get shaved. Returned in a very dull and tired condition. Took a little mutton-chop, and soon after extreme epigastric pain came on, followed by vomiting, which did not bring relief. In the evening had "a sudden spell of weakness," with extreme abdominal pain, and was believed to be dying. Breath odor very intense. Panting respiration. No coma. Bowels have not moved for two days. A physician who was called in gave some powders which relieved the pain, and recommended a diet which was by no means as strict as the previous.

During the following ten days the patient slowly improved, and by the end of a week was able to be about again. The breath odor disappeared.

On March 28th, and the two days next succeeding, the bad symptoms returned. No cause assignable for the onset. He was much inclined to sleep, but too restless to remain quiet. Complained that the room was close, wanted the windows opened, and finally insisted on going out, although the weather was very stormy, because he "must have a breath of air."

On one of these days he behaved in an unusual manner, was very jovial, mimicked some peculiarities of speech of a neighbor, sang a good deal, etc.

During this time the breath odor returned. For twenty-four hours before his death, which occurred on April 1st, he had severe pain and vomiting, jumping out of bed and crying out during the paroxysms. His breathing was very labored. Skin cool, natural in color. Great diminution in quantity of urine passed. Some incontinence. Spoke in a noisy way, addressing persons who had been dead some time, evidently believing them to be present, until one hour before his death, when he sank into coma.

Physical examination made during his stay in the hospital failed to give any evidence of visceral lesions.

BRAIN EXHAUSTION.[1]

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DURING the past ten years the question of the changes which take place in the physical structures concurrently with intellectual action has given me much serious thought, and until the last few months this question has been involved in such uncertainty that there was very little satisfaction in contemplating it. Various eminent authors have written on this subject under various names, such as nervous asthenia, nervous exhaustion, neurasthenia, nervous weakness, American nervousness, cerebral hyperæmia, etc., and while all these terms are appropriate, I prefer to follow Dr. J. Leonard Corning, and shall employ the simple term brain exhaustion.

According to a novel computation by a German histologist, who has been calculating the aggregate cell forces of the human brain, the cerebral mass of average size is composed of three hundred millions of nerve-cells, each being an independent body so far as its vital relations are concerned, and living a separate life individually, but subordinated to a higher purpose in relation to the function of the whole organ. In order to gain a lucid understanding of our subject, we must fix clearly in our minds the idea that one or more of these brain-cells is called upon to do work whenever there is any intellectual action; and we must also bear in mind that every cell, like every muscle, has a certain limit to its capacity for work. While we sometimes forget the fact, still we all know that the blood-stream is the repository of vital energy, and we must also admit that from this source each organ, with an elective faculty peculiar to itself, selects only such elemental combinations as it requires for the evolution of its own vital forces. Each vital organ of the body must necessarily use up, in the performance of its function, the equivalent of a certain amount of assimilated nourishment; and if we may, for the sake of argument, regard the whole muscular system of man as one vital organ, we may then say that in the case of the working-man—the day-laborer—this organ, meaning his muscular organization, uses up the equivalent of more nutriment than any other of his vital organs. But this demand for muscular nourishment does not take place in the brain-worker, whose muscular system is comparatively inactive. In his case it is rather the brain that takes from the blood the greatest amount of those nutritive elemental combinations suited to its need, and represented by a large amount of the food ingested. It has long been understood that in the performance of brain work there was some kind of molecular action going on within that organ, but the exact nature of it is the point that has been so perplexing, and the want of some rational theory has been the reason for so much vague speculation. Whether right or wrong, Dr. Corning, of New York, in his recent work, has set forth a very common-sense explanation of what really takes place. He regards the molecular action as one of contraction of the brain-cells, in a way similar to that of the contraction of the muscle-cells in muscular work. A given cell, or set of cells, may, if well and regularly supplied with nourishment, contract and expand to the least perceptible extent in the evolution of brain force, for several hours in succession, without any special damage; yet if the work is continued beyond the inherent strength of the nerve-cell, exhaustion must be experienced by the cell, just the same as when a given set of muscles is exercised beyond the limit of their endurance. Continued use of one set of muscles will soon determine an increased amount of blood supply, so that the waste may be repaired, and the same thing takes place when one set of cells is long exercised in the brain. Vigorous and continued mental exercise will soon call an increased supply of blood to the brain to repair the waste which is taking place there. If this increased supply of blood to the brain should be demanded by the overworked organ for any great length of time, the vessels themselves will not at once return to their normal size upon cessation of the work, but will at least temporarily remain enlarged, and thus it is that we have the cerebral hyperæmia which Dr. Hammond has written about, and which he was inclined to regard as the essential pathological condition of brain exhaustion. Prolonged intellectual work will noticeably elevate the cerebral temperature, and this elevated temperature is accompanied by a more or less hyperæmic condition of the vessels; if the hyperæmia be only of a few hours' duration, it is merely physiological, but when it remains for days together it becomes pathological. But voluntary thought is not the only thing that proves exhausting to the brain; indeed, a considerable degree of intellectual action is what makes the brain strong and vigorous; but it is the hurry and worry that seem to take away from the brain-cells their store of strength so rapidly. To understand how it is that hurry in intellectual work tires so much, let us go to physical work for an illustration. If a man walk a mile leisurely, he will only feel a healthy glow as the result of the moderately rapid expenditure of physical force; but let him run only half a mile at the top of his speed, and he will feel so fatigued that he can hardly speak or breathe, and still he has only covered half the distance, but in a shorter time. So, likewise, if a man engage at a moderate rate in mental labor for an hour or two, he will feel well and fresh and the better for it; but if he work for only half an hour at the highest intellectual pressure, he will find himself fagged out and exhausted. The very rapid contraction of the

[1] Read before the London, Ontario, Medical Association.

brain-cells is not their normal way of working, and they soon exhaust the elements which are stored up within themselves, and failing the supply from the blood-stream, which can only take place slowly, they are left on the verge of bankruptcy. Worry operates differently by reason of its continuousness; the contractions may not be rapid, unless as in the case of a man receiving some appalling news, but the contractions are continued at every intermission from other intellectual work. The rest, which in another man will follow the completion of his daily mental work, will not come to the man who is worried, for as soon as the brain is done with the daily work, the worry begins and allows no rest to the brain-cells.

If these brain-cells should be weakened or exhausted by too prolonged intellectual work, they become less capable of resisting the onset of worry, which they might more successfully do if strong and rested. We all know that when tired out mentally trivial things will worry us, which would be passed over almost without a thought when we are fresh and strong; that which seems to us of slight importance in the morning will grow to mammoth proportions of seriousness by evening time. If those tired-out brain-cells come under the influence of worry, and are thus stimulated to further contractions, when they should be resting and receiving a store of nourishment for the morrow's work, it does not seem surprising that they are unfitted for their work when the morrow comes. Now, so long as the output of vital force by any single organ does not differ too greatly from that required by the remaining tissues of the body, all will be found to go well; but when one organ is called upon for too long a period to exercise its function, we shall observe two phenomena. In the first place, those elements of the blood required for the maintenance of the function of this particular organ will become more or less completely exhausted; and, in the second place, the organ will borrow those needed elements from any other organs that contain them. Relative to the first of these phenomena Dr. Maudsley says: "Poverty and vitiation of blood may certainly play a weighty part in producing mental disease, as they do in producing other nervous disorders. Lower the supply of blood to the brain below a certain level, and the power of thinking is abolished; the brain will then no more do mental work than a water-wheel will move the machinery of the mill when the water is lowered so as not to touch it." And so, likewise, if we impoverish the blood by abstracting its building elements, or if we vitiate it by the addition of noxious elements, we make it an unhealthy medium for the supply of that help which the brain requires to do healthy work. In reference to the second of these phenomena—the borrowing of needed elements from other organs—we may find some of the best illustrations of this kind of plundering in those individuals who are inordinate brain-workers. It happens not infrequently in such persons that the fatty, and also the muscular, tissues are reduced to a surprising degree, so much so, in fact, that the individual will exhibit a considerable amount of emaciation. He will observe his own poorly nourished condition, and will commonly fall into the error that forced physical exercise is what he requires, whereas his real want is physical as well as mental rest.

Only a few weeks ago I was talking with a young man in this city on the subject of recreation. Knowing that he was an earnest and hard-working student, I was somewhat curious to learn what he did in the way of physical exercise. He said: "Well, doctor, I don't suppose I am doing what is right; for although I take no physical exercise, I feel too tired when I reach home from the office in the evening to engage in anything of that kind." Now this young gentleman is a graduate in Arts of Toronto University, and he spends his time during the day in the work of a law office, and his evenings in preparing himself for the examinations of the Law Society; and he, in these ways, expends every day all the nervous energy which his food supplies, and if he were to take forced physical exercise to any considerable extent, he would injure rather than benefit himself. But there is another way in which some of this emaciation of brain-workers may be accounted for. I refer to the malassimilation incident upon deficient nervous supply to the stomach. When the brain is tired out, and a large meal is taken into the stomach, it is impossible that sufficient nervous influence shall be conducted to the stomach for the perfect digestion of the meal, and hence we commonly find that when this practice has become a habit, the patient will suffer from all that train of evils resulting upon indigestion. Many men and women are thus treating themselves for a tired stomach where the primary cause is an overwrought brain. To further illustrate the exhausting effect of purely intellectual action, I will mention a few typical cases.

A previously healthy and robust young man, who was teller in a bank in this city, and through whose hands a large amount of money passed daily, told me that while he simply attended to the work of the bank he could do it with a self-conscious feeling of ease and accuracy. He saw, however, an opportunity of improving his business relations by a knowledge of short-hand, and he accordingly set himself to work in earnest to learn it. After tea every evening he would spend three or four hours in close study upon this subject. All went well for a fortnight, but at the end of a month he began to suffer from headaches and a sense of mental confusion, and he lived in daily dread of making a mistake in his cash. In six weeks the misfortune which he feared overtook him, and his error cost him several months' salary. Easier work in another department of the bank, where there was less continuous mental strain, together with fewer hours' work at short-hand in the evening, served to restore him speedily to his former health and spirits.

One of the most eminent and deservedly popular ministers of the Presbyterian Church in Canada to-day works so hard with his brain, while delivering his regular weekly discourses to his congregation, that his flannels and linen are saturated with perspiration, and have regularly to be changed after leaving his desk; and he is not one of those men, either, who pound the book and saw the air with their hands. The result of this prodigal expenditure of nervous force is that every year his general health becomes so enfeebled that he is forced to take a long vacation, and every few years he has to take a transatlantic trip.

Ex-President Arthur, a few weeks before he left the White House, said to a friend: "I think I am an unusually strong man, yet after I have been receiving visitors for two hours I am as limp and as deficient of muscular strength as that rag. They strip me of all my nervous force."

In Mr. Dolby's book on "Dickens as a Lecturer," he confirms the opinion that Dickens brought on his death by overwork and excitement. He says that the reading of the murder scene in "Oliver Twist," by Dickens, would bring the reader's pulse up from 72 to 118, and that on these occasions he would have to be supported to his retiring-room and laid on a sofa for fully ten minutes before he could speak a rational or consecutive sentence.

Shelley, who was poorly while writing "The Cenci," said he believed that the mental labor connected with its production proved a fine antidote to the nervous sedatives which he was taking at the time, and that the mental excitement "kindled the pain in his side as sticks do a fire."

When Wordsworth was engaged in composing the "White Doe of Rylstone," he received a wound in his foot, and he observed that the continuation of the literary labor increased the irritation and pain of the wound; whereas by suspending his work he could relieve himself of these unpleasant symptoms, and absolute mental rest was finally requisite to his perfect cure.

Southey perpetrated industrial suicide by his incessant study and mental labor. A biographer says of him: "His

busy brain wore itself out, and the workman could but wander, without purpose and without power, among the books which he had gathered with patient love around the walls of his writing-room."

And we all know, if we will only stop to look at the question in the right light, that the lives of such men as the late Lord Lytton, Earl Beaconsfield, and Thomas Carlyle furnish ample evidence of intense mental and physical sufferings which were the direct outcome of mental over-work.

From what has already been said, it may be readily inferred that certain classes of society will be especially subject to brain exhaustion, and while no classification is strictly accurate, I think the majority of cases may be classed among one of the following: 1st, Persons engaged in science, art, or literature; 2d, those engaged in politics; 3d, those in commerce, exchange, and speculation; 4th, those who are too laborious among students and scholars; and 5th, mothers with small children and a large share of domestic care.

We shall now have to pass rapidly on to the clinical history, and we shall find that the chief symptoms of brain exhaustion may be classed, for the sake of convenience, into psychical and physical. Under the head of psychical we shall find restlessness during the day, and more or less wakefulness during the night. This restlessness is peculiar in itself, and if long continued we call the individual fidgety and fussy, as he will make a great bustle over nothing, or next to nothing, and besides this he is never satisfied with the work in hand. This restlessness is also accompanied by intense and excessive irritability; the patient will imagine himself imposed upon when such is not the case, and he will fancy himself slighted when nothing of the kind is intended; he will conjure up some fancied wrong, and attach the cause of it to the first one who comes in his way, just as often his friend as his casual acquaintance. He will also magnify the slightest oversight into a grave offence, and for the moment it will overpower all other considerations of the mind. "This extreme irritability is one of the most characteristic features of the disease, and is absolutely beyond the control of the patient; the paroxysms of anger may be extremely brief in their duration, or may continue for several hours. During their continuance the subject manifests a morose and sullen attitude toward all with whom he may be thrown in contact. Sometimes he is revengeful, and concocts extravagant and fantastic plots against those who are supposed to be inimical to him. At others he is lachrymose, and disposed to look upon himself as a martyr—as one misunderstood by his fellow-mortals."[1] The sleeplessness at night is accompanied by a series of unfriendly and harassing thoughts passing rapidly, and sometimes unconnectedly, through the mind, and is followed naturally enough by a state of drowsiness for half the next day; and when the sleep does come it is generally disturbed by horrible and wearisome dreams.

The faculty of registering impressions is often materially deranged; sometimes names of familiar places, persons, and objects are temporarily forgotten, and the utmost effort fails to recall them. The will often exhibits a marked impairment, and daily duties are performed in a cursory and indifferent manner, in spite of an earnest desire to do them well. Mental confusion, somewhat resembling that semi-consciousness preceding sleep in the healthy person, is frequently experienced. There is also a morbid curtailment of the power of mental concentration. I do not here refer to absent-mindedness, for there the mind is engrossed with some other subject; but rather a mental state in which the patient finds it impossible to devote himself continuously and vigorously to any given subject. This lack of mental concentration is particularly characteristic of brain exhaustion, and the medical observer will find this true in conversation with his patient.

[1] Brain Exhaustion, with some Preliminary Considerations on Cerebral Dynamics. By J. Leonard Corning, M.D. New York: D. Appleton & Co. 1884.

Among the more prominent physical symptoms in brain exhaustion is pain in the region of the vertex and superciliary arches, and also at the back of the neck; and in different patients entirely different forms of mental occupation will excite the pain. In one man, reading for a few minutes will not only be followed by the pain, but also by a sense of exhaustion; in another, writing for a short time will produce these symptoms; and in still another, continued conversation on any question requiring much attention will be followed by like results. Photophobia is common in this class of patients, and reading by gas-light is especially painful to the eyes, so that colored and other glasses are often called into use. The sensibility to certain sounds is sometimes abnormally developed, so that the squeaking of a door, or the rumbling of a cart, or the sound of certain musical instruments may prove intolerable. The skin of the face bears a pallid and unhealthy appearance, and the eyes lack that lustre which belongs to the healthy and well-rested brain; altogether the expression of the countenance can only be described by the term aged.

Derangements of the function of the stomach play a prominent part in prolonging and aggravating brain exhaustion, and I am satisfied that in many cases the brain is primarily at fault where the blame has been laid upon the stomach. In order that a good meal, say at midday, may be properly digested, the stomach must have sufficient nervous force sent to it; but it often happens that the nervous system has already been overworked in the morning, and should have rest before taking up a new load; the man, however, hurries from his office or store to the restaurant, where he will either continue the business of the morning in his own mind, or lay out plans for the afternoon's work. In this way he will expect his brain to continue its work at a high pressure, and he will also impose upon it the additional burden of sending sufficient nervous influence to his stomach to digest a full meal, perhaps imperfectly masticated. A locomotive is caused to stop occasionally to take on fuel and water, but man is not as good as that to his own brain. Is it any wonder, then, that after a while the stomach, which is at the same moment both starved and overloaded, should rebel? And when it does rebel, we can easily see that the condition of the brain is made infinitely worse, for then the supply of nutriment to the brain is largely cut off. The cry of the stomach in its distress is likely to direct the attention of the patient, and sometimes that of the practitioner as well, to that organ, and the character and quantity of the food is then so regulated that the poorly nourished brain is still further impoverished; and the stomach itself is not relieved till the patient is sent away for a trip where he really escapes the mental work and worry of his daily duties at home.

The symptoms of indigestion are, in many respects, so similar to those of brain exhaustion, that anyone may be easily forgiven for confounding the two conditions, especially as those of exhaustion are so soon followed by those of indigestion.

There is almost always some cardiac disturbance, and this is sometimes one of the earliest symptoms to excite the apprehension of the patient. Emotional excitement, even if only slight, will cause the most distressing palpitation, and change of posture, as from sitting to standing, will greatly increase the number of pulsations. This tumultuous action of the heart often gives the patient much real concern, but the stethoscope reveals the absence of any organic lesion.

The kidneys are more or less affected, and the urine is sometimes scanty, and at other times greatly in excess of the normal quantity and limpid; the phosphates are generally found in abundance in the urine of exhausted brain-workers. We know that cerebral irritation may produce diabetes, and we know that emotional excitation and worry will produce a sudden and temporary polyuria; but, so far as I have been able to ascertain,

very little is known of the effect of brain exhaustion upon the kidneys.

While emaciation of the muscular structure is the common condition, it is by no means constant; the physical inactivity which an exhausted brain sometimes enforces upon the muscular system may prevent the oxidization of the fat-globules which have been previously stored away, and we thus have the apparently anomalous condition of a fat man with exhausted brain-cells. Those cases where very little emaciation has taken place are, I believe, the most difficult for satisfactory treatment; but in them, like all other cases, there is a perfect intolerance for exercise—anything like a long walk is regarded by the patient as a species of cruelty.

And now we come to the question of treatment, and I approach it with a certain amount of trepidation, because of our natural tendency to pay slight regard to what is simple, and to attach much importance to what is complex. Our veteran teacher in medicine, Dr. Austin Flint, said, in his address to the New York State Medical Association, a few months ago, that fame would attend that author who would write a work on the non-medicinal treatment of diseases. A few weeks afterward an eminent Canadian author said he believed that the erection and endowment of a thoroughly equipped hospital where medicines should never be used, unless an occasional anæsthetic, would be of the greatest possible benefit to mankind and to the science of medicine. I think, gentlemen, after we carefully consider it, that you will all agree that the spirit of these observations is especially applicable to the treatment of brain exhaustion.

There are three factors of primary importance to brain action, namely, first, the condition of the brain-cell; second, the condition of the cerebral blood-stream; third, the physiological relationship between the cell and the blood-stream. In order that the brain-cell shall perform its function properly, it is necessary that intracellular nutrition shall be physiological both in respect to quality and quantity of nutriment. After the cell has exercised its function for a certain length of time, the energy of its contraction gradually diminishes until there is more or less complete suspension of activity. Now, if the blood-stream were capable of effectually neutralizing the waste which takes place in the cell *during* its functional activity, we should have nervous expenditure on the one hand, with an equal nervous reimbursement on the other, and there would remain no necessity whatever for rest or sleep. As it is, however, during our waking hours waste outstrips supply, and it is only when the mental work, and even consciousness itself, has been temporarily suspended that the blood-stream can supply the deficit. I believe we have here the key to the scientific treatment of this affection. *Rest* by prolonged *sleep*, as recommended by Dr. J. Leonard Corning, is the main point to be observed, and along with it a generous supply of nourishment. Of course, rest also means cessation from mental and physical work, and relief from worry. Sleep means an increased period of unconsciousness daily, not induced by hypnotics. Nourishment means a liberal amount of good food which can be easily assimilated, such, for instance, as rich and carefully prepared soups and beaf-tea; and this food should be administered as often perhaps as four or five times daily. Above all, plenty of time must be allowed for recovery, and it is well to explain this to the patient at the outset. A condition which has been induced by years of overwork cannot be expected to disappear in a week or a month.

Two other facts should be taken into account in this connection. One is that some men's brains are capable of evolving mental force much more rapidly than others, and consequently waste takes place in these cases much more rapidly. The other fact is that different sets of cells are engaged by different subjects, and hence the rest which is experienced by the student who turns from one subject to another, as, *e.g.*, from mathematics to classics.

A CASE OF POISONING BY SULPHATE OF MORPHIA—RECOVERY.

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ALTHOUGH the record of cases of poisoning by opium and its alkaloids is very extensive, I have no apology for adding the report of one more. The treatment of such cases is always a subject of great and varied criticism; many pursuing a very gentle course, others, like myself, pushing to extreme measures immediately. No one is competent to judge the merits of a course of treatment unless he be associated in the case, for what may appear as an imperative measure to the attending physician would seem but a foolhardy procedure to one not so situated. As illustrations of this, note that in one case reported by Fothergill there was one grain (.067 grm.) of sulphate of atropia, administered hypodermatically, to antagonize twelve to seventeen grains (.8 to 1.143 grm.) of opium, with success; and again, where Dr. J. H. Clarke[1] administered gr. $\frac{1}{150}$ (.000446 grm.) every half-hour to counteract thirty grains (2 grms.) of morphia; after the third injection the pupils dilated and general improvement began. In the case of Dr. Clarke the dose of atropia to antagonize one grain of morphia was gr. $\frac{1}{1500}$ (.0000446 grm.). This appears to be a ridiculously small dose; but, considering the favorable result, it was sufficiently large, notwithstanding the stomach had not been evacuated. To establish the lethal dose of sulphate of morphia would be a hard task. Death has followed the administration of gr. $\frac{1}{8}$ (.011 grm.), and babies of two years have taken with impunity doses of gr. $\frac{1}{16}$ (.0041 grm.), frequently repeated. Some weeks ago I was called, during the night, to attend a gentleman, seventy-four years of age, and within the space of three-quarters of an hour he had taken one grain (.067 grm.). Having reached this limit I did not deem it safe to give more, although there did not appear the least evidence of the action of the drug. I might add that, in this case, the patient had on several occasions obtained marked relief from doses of gr. $\frac{1}{8}$ (.008 grm.).

H——, male, white, aged thirty-four, of fine physique, at six o'clock on the evening of May 16, 1885, while under the influence of alcohol, took fifteen and a half grains (1.033 grm.) of sulphate of morphia with suicidal intent. He was seen in five minutes; his face was much flushed, conjunctivæ congested. He had been given ℈ij. (2.67 grms.) pulv. ipecac., which failed to act. The following solutions were made:

℞. Atropinæ sulphat ..... gr. ij. (.133 grm.)
Aquæ destillat..... ʒj. (4 c.c.)

M. Sig.—Ten minims hypodermatically, to be repeated in half an hour, if necessary.

℞. Apomorphinæ hydrochlorat.. gr. j. (.067 grm.)
Spt. vini rectif..... ʒss. (2 c.c.)
Aquæ destillat ..... ʒjss. (6 c.c.)

M. Sig.—Ten minims hypodermatically.

The apomorphine injection (gr. $\frac{1}{15}$, .0055 grm.) was first administered, followed immediately by the atropine (gr. $\frac{1}{3}$, .022 grm.). This was ten minutes after taking the poison. He was fast sinking into a stupor, pupils contracted to a point, and breathing becoming stertorous. In ten minutes more he was profoundly insensible, not aroused by severe shaking and vigorous paddling; pupils enormously dilated; face, neck, and ears very much cyanosed; respiration labored, superficial, hissing, and stertorous, but ten in a minute; pulse very feeble, regular at one hundred and forty beats; jaws locked. He had failed to vomit. A large cork was inserted between the teeth, he was turned upon his side, his tongue drawn forward, and

[1] THE MEDICAL RECORD, vol. xxvii., p. 514.

artificial respiration employed; death seemed imminent. A messenger was despatched for assistance and a battery. Respiration improved and face assumed a natural color under the application of the interrupted current—one pole placed over pit of stomach, the other at varying points over chest and neck. At a quarter to seven, ten minims (.67 c.c.) more of the atropine solution were inserted subcutaneously. Respiration increased to sixteen, and became full; pulse at wrist one hundred and forty, and feeble; heart-beat strong. He continued in this condition until half-past seven, when Dr. James E. Morgan arrived. With his assistance, and with much difficulty, I introduced the stomach-tube, and injected about a quart (1,024 c.c.) of water; this was thrown off in a few minutes. This procedure embarrassed his breathing very much; it again became shallow, abdominal, and superficial; pulse became intermittent; heart's action feeble; face cyanosed; death seemed imminent. Under the application of the battery and the hypodermatic injection of ten drops (.67 c.c.) of aquæ ammoniæ, diluted with one drachm (4 c.c.) of distilled water, he again rallied. During all this time the tongue and fauces were very dry and hard. At nine o'clock the stomach-tube was again introduced. After thoroughly washing out the stomach, a drachm (4 c.c.) of aromatic spirits of ammonia in two ounces (64 c.c) of water was injected. This was allowed to remain. At half-past nine he was removed to the Emergency Hospital, where the house staff—Drs. Wright, Roy, Taylor, Morgan, and Hoskins—rendered valuable assistance. At eleven o'clock one grain (.067 grm.) of caffeine citrate was inserted in the arm; this was followed in fifteen minutes by gr. $\frac{1}{100}$ (.00067 grm.) sulphate of atropine, as the effects of the former injections seemed to be wearing off. Battery again applied. Through the stomach-tube introduced gtt. xx. (1.333 c.c.) aqua ammonia in one ounce (32 c.c.) distilled water, without ill result. Pulse too intermittent to count, ranging from sixty to ninety-six per minute; respiration superficial, stertorous, and eighteen. At twelve a pint (512 c.c.) of strong infusion of coffee, with two grains (.133 grm.) caffeine citrate, was injected into the bowel; this was retained. At two A.M. he was with difficulty aroused; at three he took a few swallows of coffee; this was rejected. Was walked about for some time, when, at four, he was taken to his home, where he undressed himself and went to bed; sight not good, but he was quite sensible.

℞. Cerii oxalat,
Ingluvin..... āā gr. xxx. (2 grms.)

M. Div. in pulv. no. vj. Sig.—One powder to be given if nausea or vomiting occur.

17th, 10 A.M.—Nervous; complains of soreness of body. Potassium bromide 3 ss. (2 grms.) at night. Has not passed urine; mouth dry, pupils natural.

18th, 10.30 A.M.—Has not slept since he recovered from effects of morphine, nor has he any inclination to sleep.

℞. Sodii bromid..... ʒ ijss. (10 grms.)
Potass. bromid..... ʒ iv. (16 grms.)
Tinct. cannabis indicæ... ʒ ij. (8 c.c.)
Aquæ destillat., q. s. ad... ℥ iv. (128 c.c.)

M. Sig.—Dessertspoonful, in water, every four hours.

20th.—Much improved, no inconvenience about stomach. Has slept comfortably; put on full diet; point of injection of the apomorphine indurated, those of the ammonia injections same.

23d.—Doing well; poultice to indurations.

28th.—Discharged from treatment.

Remarks.—The points of interest in this case are many, the principal ones being the large amount of sulphate of atropine used in such a short time, but the continuance of the symptoms show it not to have been sufficiently large; the short time—ten minutes—required to produce the effects of the morphine, and the correspondingly short time for the atropine to manifest its effects. The amount of alcohol which he had ingested aided materially in assisting the toxic effects of the morphine, as it had produced congestion of the brain, which was intensified by the morphine. Whether the apomorphine was antagonized in its action by the atropine I do not know, but incline to the belief that it was. Von Boeck[1] writes, in cases where emetics fail to act, it is "because the excitability of the extremities of the sensory nerves in the mucous membrane of the stomach is so greatly reduced by the narcotic poison that no reflex movements can be excited." Again he writes: "Therefore, useful as emetics may be in themselves, we must not forget that, even under the most favorable circumstances, they may decidedly promote and aggravate the collapse which is imminent in consequence of the action of the poison." His statement respecting apomorphine is clear and positive, as will be seen from the following extract: "I once had an opportunity of observing a severe case of morphine-poisoning, in which apomorphine failed to induce vomiting in a patient who was lying in profound sopor, but the collapse shortly after the injection became far more decided than before." Had there been administered in the first instance two-thirds of a grain (.044 grm.) of the atropine sulphate in place of the one-third (.022 grm.), and this followed in half an hour, if necessary, by a sixth (.011 grm.), or even another third (.022 grm.), I firmly believe that the length of the narcotism would have been very much shorter; the pulse and respiration would have shown but little the effect of either poison. In the treatment of narcotic poisoning it is a question in my mind whether beating, thumping, and lashing are of any avail. They may be vigorously pursued, and are in every such case, but would it not be better to do away with such cruelty and at once proceed to the administration of proper antagonists. I assisted in a case of opium-poisoning in Baltimore City, some years ago, where the flesh was cut away with a black-snake wagon-whip while we waited for remedies. For hours the poor fellow was walked, trotted, pulled, and beaten from one end of the warehouse to the other. He recovered, notwithstanding the violence of the treatment. Thomas G. Morton, in a case reported, bled in a large quantity, after which eight ounces (256 c.c.) of defibrinated blood were thrown into the saphena vein on the right foot. The patient died, but, so far as I can remember, was benefited by the operation. This case occurred in the Pennsylvania Hospital some years ago, but I do not recall the journal in which it was reported. Dr. D. Tod Gilliam[2] reports a case of opium-poisoning in a female, sixty-four years of age, in which he practised transfusion of milk into the radial vein with apparent success. As a means of combating the exhaustion consequent upon violent and excessive physical treatment, this is an excellent measure. In the case referred to the patient died. With respect to the caffeine treatment of narcotic poisoning—within narrow limits this drug is antagonistic to morphia; still I should not be willing to sacrifice a patient to a fair trial of it. From its being readily decomposed by water, it is ineligible for hypodermatic use. Tanret[3] suggests as a stable preparation, dissolving caffeine in a solution of benzoate or salicylate of sodium. Its relative solubility is: in 100 parts of water, 160 parts of absolute alcohol, and 220 parts of ether.

To Prevent taking Cold.—Dr. Brown-Séquard says that a "cold" usually results from the reflex influence of cold air upon the sensitive nerves of the nucha. He proposes to overcome the peculiar sensitiveness of these nerves by blowing with a pair of bellows upon the neck, using first warm air, which is to be gradually cooled, until the patient can stand any sort of a draught (of air, not of liquid) without sneezing.

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[1] Von Ziemssen: Cyclop. Prac. Med., vol. xvii., p. 865 et seq.
[2] The Medical Record, vol. xxvii., p. 679.
[3] London Medical Record, 1882, p. 48 (translated from Gaz. Hebdom. de Med., January 6, 1882).

DEVIATIONS OF THE NASAL SEPTUM.[1]

By S. O. VANDER POEL, JR., M.D.,

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After the exhaustive paper read before the Fellows of the Academy last year, it would scarcely seem expedient to again open this subject, were it not that an operation suggested for the correction of this deformity had not received the attention from the profession it would seem to deserve.

The numerous methods of procedure that have been devised for the correction of deviations of the nasal septum, and the diversity of opinion that exists in the minds of surgeons, would seem to indicate that at present no generally accepted plan is adopted in the treatment of these cases.

In dealing with this deformity it will best suit our purpose to divide the subject into three heads: 1, Deviations of the cartilaginous septum, with deflections of the end of the nose—usually attributable to traumatism; 2, deviations of the bony septum, accompanied by the high-vaulted palatine arch, as was first pointed out by Duplay and subsequently elaborated by Jarvis; and 3, a combination of the first and second varieties, where the deformity exists in both the bony and cartilaginous structures. Under this head would also be included the so-called sigmoid deviations, where both nasal cavities are more or less obstructed by a crumpled condition of the septum.

I would invite your attention for a few moments, this evening, to the consideration of Roberts' operation, which is applicable principally to the first of these three divisions, namely, deviations of the cartilaginous septum with deflections of the nasal tip, as well as to many of the osseous deviations accompanied by cartilaginous displacements. In these the cartilage is the structure most at fault, and when it is corrected the bone will frequently be found not to offer sufficient obstruction to prevent good drainage and a free respiratory tract. Roberts thus describes his operation: "With a scalpel introduced through the obstructed nostril, I perforate the cartilaginous septum at its upper and back part, and make a long incision downward and forward; this permits me to push the whole cartilaginous septum to the left (assuming the obstruction to be in the left nostril), and overcome to a great extent the lateral deformity. To retain the parts in position I introduce a steel pin, one inch and a quarter long, in the right nostril, and pass it completely through the anterior and upper segment of the divided septum, near the columella. Having the movable portion transfixed, I carry the head of the pin to the left, and with it the anterior part of the nose, and retain it there by embedding the point deeply in the immovable cartilaginous septum and mucous membrane at the back part of the left naris. In other words, I incise the deformed cartilage and pin it in position very much as you would pin a flower in the button-hole of a coat."

The most important indication to meet in any of the operative methods for the correction of a deviated septum is the retention of the parts in their replaced position. The tendency for them to resume their faulty posture is so strong that considerable force is required to retain them; even after the lapse of some weeks, in cases which at first gave evidence of perfect restitution, the septum will gradually work its way back as soon as the retentive apparatus is removed.

Adams[2] and Jurasz[3] attempt to overcome this resiliency of the septum by crushing it with forceps, and then retaining it by a splint and hollow plugs. Those who have employed this plan are aware of the many annoyances and difficulties constantly met with—the clogging of the tubes with the secretions, or by granulations sprouting into their ends, thus rendering them impervious to air, the difficulty in replacing them after removal for cleansing, and, on the other hand, their frequent expulsion in the effort of coughing, as the inflammatory swelling subsides. These considerations have induced many operators to abandon the procedure and seek easier and more effectual methods.

Other prominent means employed for overcoming this condition are the ablative punch of Blandin[1] for removing a portion of the tissue, the stellate punch to overcome the resiliency, the galvano-cautery, and the snare.

The objections urged against the punch, where no effort is made to correct the position of the deformed septum, are, that although it permits of a somewhat freer respiratory tract through the fistulous opening, still, thorough drainage, so necessary to good nasal hygiene, is not obtained, the secretions being pent up in the nostril posterior to the obstruction, there to decompose and perpetuate the accompanying catarrh. In aggravated cases the cautery and écraseur would seem insufficient, for although by means of them the usually existing hypertrophies can be removed, permitting of freer respiration, still the septum remains out of position, and the danger of perforating it while cutting through the tissues is always to be thought of. The various forms of retentive apparatus, such as splints and trusses, aside from being unsightly and thus confining patients for a week or so, are in most instances very painful, and require to be frequently removed and readjusted.

These considerations led me to give Roberts' operation a somewhat extensive trial, and in properly selected cases, more especially those complicated with a deflection of the end of the nose, it has yielded very satisfactory results.

The operative procedure followed, in some eighteen cases treated, consisted in introducing a sharp-pointed bistoury into the nostril in which the convexity presents itself, and perforating the cartilage at its superior border, the point of the instrument being met in the opposite nasal cavity by the little finger of the operator; thus guarded, the knife is carried in a vertical direction to the floor of the nares, passing through the point of greatest convexity. We thus have the septum divided into two segments, an anterior and posterior, instead of a superior and inferior, as described by Roberts, the advantage being that the pin is given a better leverage in bending the tip of the nose into position, and it is not possible for it to slip through the incision, as it frequently does when the cut is horizontal. In making the incision it is well that the handle of the bistoury be slightly elevated, in order to bevel the edges of the cut surfaces, so that when the septum is pressed back into position the two segments will override, and being held there by means of the pin, unite in this new position.

In cases where there is simply a luxation of the inferior border of the septum as the result of traumatism, this incision would not seem necessary, and instead the Adams forceps may be employed to break the false attachment and press the cartilage back into position, the pin being used to retain it. When, however, the deviation is congenital, and is accompanied by the high-vaulted palatine arch, or the sigmoid deflection is present, in which both nostrils are more or less obstructed, it may be necessary to ablate some of the tissue with a punch before the pin is introduced. In these cases the difficulty seems to arise in a redundancy of septum, the high-vaulted palate not giving it sufficient space to develop vertically, but crowding it to one side. It then becomes necessary to remove the redundant portion.

The other modification that suggested itself during my first cases was the employment of a shield in the obstructed nostril, to prevent the pin from ulcerating through, and also to give a broader leverage. The necessity for it was suggested by finding, in several instances, some days subsequent to the operation, that the septum bulged

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, March 20, 1886.

[2] British Medical Journal, October 2, 1875.

[3] Berlin klin. Wochenschr., 1882, No. 4.

[1] Compendium de Chirurgie Pratique, t. iii., p. 33.

into the nostril both above and below the pin, owing to the fact that the cartilaginous septum, especially in its central portion, is exceedingly thin, its apparent thickness being due to the two layers of mucous membrane covering it upon either side. In order to overcome this tendency, I have had a small elliptical metallic shield constructed, with an eye attached to the centre of its flat surface, through which the pin passes. The septum is perforated by the pin through the anterior of the two segments made by the incision, at right angles to the axis of the nostrils, and the point made to pass through the eye on the shield, which is held in the convex nostril over the line of incision. The point of the pin is then carried backward until the bony septum is reached, when by crowding the cartilage a trifle beyond the median line the point is made to impinge against the lateral wall of the vomer on the side in which it entered—that is to say, the point enters and emerges in the same nostril. If, for instance, it be the right naris that is obstructed, the pin should be introduced through the left; it then pierces the eye on the shield and is carried straight back parallel to the axis of the floor of the nose, and made to rest in the mucous membrane on the left side of the bony septum—not necessarily passing into the left nasal cavity. The principle upon which it acts is that of a lever of the second order, the power being represented by the head of the pin, the weight by the convexity of the septum, and the fulcrum by the bony septum.

If it should be found, when the pin is in position, that the tip of the nose is deflected too far in the opposite direction, it may be corrected by grasping the pin by means of forceps within the nostrils, and bending the end of the nose until it is in proper relation to the face.

In selecting a pin, it is necessary to obtain one of not too high a temper, in order to avoid its breaking when bending the septum into position, an unfortunate accident which may lead to considerable difficulty in extracting it. The pin used is made of plated steel wire, about four inches in length, and with a temper which permits it to bend slightly; a perforated shot answers for a head, which, when the pin is in position, is pinched, and so fastened at the tip of the nose, the excess of wire being cut off. The head of the pin is then lodged in the fossa at the tip of the nose, in order that the apparatus may be entirely hidden from view, and also to prevent it from dropping out.

Immediately upon the subsidence of the inflammatory swelling, which is usually slight, respiration through the previously obstructed nostril is possible, thus securing good nasal drainage and respiration throughout the course of treatment, a factor which contributes much to the comfort of the patient, other forms of retentive apparatus so obstructing the nares that free respiration is not possible. The pin is permitted to remain *in situ* two weeks, in order to give the wound sufficient time to unite.

Occasionally it may be found necessary, when the desired result has not been entirely secured by the first pin, to introduce a second. This procedure is analogous to the second operation so frequently done in strabismus. In placing the second pin in position it is not necessary to again administer ether, as a thorough application of cocaine will produce sufficient anæsthesia. The length of time which this second pin is allowed to remain is governed to a great extent by the amount of deformity to be corrected; usually, a week is sufficient.

In the first operations undertaken the hemorrhage was so profuse as to occasion considerable embarrassment, not only obstructing the view of the parts, but interfering with respiration. This is particularly annoying in children, where the nares are too small to permit of the introduction of the finger, and where it is necessary to see the parts perfectly to properly adjust them. To arrest this hemorrhage various measures have been employed, but that which has proved most effectual is the use of hot water combined with pressure. Two probangs are held in boiling water, and then thrust, one into each nostril, being at the same time pressed firmly together with the divided septum between them. Four or five minutes of such pressure, with perhaps heating the sponges a second time, will suffice to control the bleeding.

In conclusion, it may be remarked that the operation has proved itself more successful in deviations of the cartilaginous septum, especially those connected with deflections of the nasal tip, than any other measure advocated; and that the pin, as a means of holding the parts in position, has shown itself superior to other forms of retentive apparatus, being worn with less discomfort, and permitting of freer respiration and better drainage.

Clinical Department.

TWO CASES OF THORACIC ANEURISM.

Dr. Hobart A. Hare, of Philadelphia, reports the two following cases: Annie D—— came under his observation complaining of palpitation and severe pain in the chest and left arm when lying down. The pain began about three months ago, and has been steadily increasing. There was no history of syphilis or other trouble, except rheumatism; her father had suffered from this, and she had had an attack of acute articular rheumatism every winter for six or seven years, but her mother, two brothers, and a sister are free from it. Two brothers died of hydrocephalus before she was born. She had evidently had some cardiac trouble for years, but was nevertheless well developed for her age. She menstruated at the age of fourteen, about which time she began to work at weaving, at which she is still engaged. There was no history of traumatism or scarlet fever. Inspection of the chest showed an egg-shaped protrusion in the suprasternal notch, very expansile and bulging at each systole of the heart. The dilatation extended well up into the innominate artery for over an inch from its point of origin. Pulsation was strongly marked in all the vessels of the neck. The apex beat of the heart was in the sixth intercostal space about an inch to the left of the nipple. There was no distinct thrill over the precordial space, but it was well marked in the suprasternal notch and over the dilated portion of the innominate artery. On auscultation over the swelling there was heard a rough and soft murmur accompanied by a bruit. Over the aortic orifice was heard a double murmur—a short, sharp and rough systolic, and a long, softer, and more blowing diastolic. These murmurs were very distinct over the sternal notch, the diastolic murmur becoming intensified as the ear was carried down the sternum, reaching its maximum at the ensiform cartilage. Over the pulmonary orifice both murmurs were heard, but were somewhat muffled. Both were transmitted posteriorly to the left, but did not depend on mitral disease, as they were heard more loudly over the right scapular region than the left. Both murmurs could be heard in the vessels of the neck, the diastolic feebly. There was the typical "water-hammer" pulse, twenty-seven to the quarter-minute. Abdominal pulsation could be seen, but was not marked. Percussion revealed marked dilatation of the heart, accompanied by great hypertrophy. No dysphagia, dyspnœa, nor loss of voice. There was a marked difference in the time and force of the pulse in the two radials, the right falling behind and being shown by the sphygmograph to be altered in character. The interesting points in this case were the age, the double aortic disease, the enormous cardiac hypertrophy, the escape of the mitral valves, and the absence of dropsy and of many of the other distressing symptoms usually present in such cases. The patient was but seventeen years of age, while of sixty-nine cases compiled by Garland the youngest was aged twenty. Dr. Hare believes that there was a general dilatation of the aorta extending into the innominate artery, added to which was the recent formation of a small fusiform aneur-

ism from which arose the later symptoms—the pain, for example.

The second case was in a man twenty-eight years old, single, of good hereditary history, and who had never had any sickness, except a mild attack of rheumatism in the hip, and a gonorrhœa some nine or ten years before; he had never had syphilis, nor did he drink to excess. Two and a half years before coming under observation he had fallen from a car, striking full on his chest and face, after which time he began to suffer from dyspnœa, even without exertion. About two years ago he noticed a slight palpitation of the heart, followed by a feeling of a ball rising in his throat. For two years he had felt a throbbing in his chest, and for a year had felt the same sensation all through his body. Three or four months ago he began to experience difficulty in swallowing, and this increased until, on admission to hospital, he could swallow only liquid or soft food, the obstruction seeming to be about on the level with the cricoid cartilage. The voice was altered, apparently from pressure on the larynx rather than on the recurrent laryngeal nerve. There had been no cough nor spitting of blood. About the end of December he began to suffer from pains in the chest and right arm, becoming more and more severe, so as at times to make him very violent and even delirious, requiring hypodermics of one-hundredth grain of hyoscine to quiet him, morphine seeming to increase the trouble. He had double vision almost constantly, and even in his rational moments had visions which he said his mind told him were false. The pupils were widely dilated, the right more than the left. The left responded normally to light, but the right answered slowly, contracting for a moment and then dilating widely. This eye was more prominent than the other, and faint pulsation could be seen in it. The right arm was wasted and flabby. A heaving pulsation, synchronous with systole, was felt in the upper part of the chest, and the upper portion of the sternum was eroded. There was a tumor here extending about one and a half inch upward, and there was a distinct thrill perceptible over the aneurism. The patient's condition became so grave that an operation was decided upon, and Dr. Ashhurst ligated the right common carotid artery on a line with the cricoid cartilage. The man rallied well, but had several violent attacks which were controlled by hyoscine. The next morning he was rational, and had a good pulse, the right being less full than the left. The following night, however, he died from asphyxia, the aneurism pressing more firmly than ever on the trachea. This case is interesting from the age of the patient, the effect of hyoscine on the delirium, and the survival of the patient after ligation of the common carotid, only to succumb to asphyxia from pressure. No autopsy could be obtained. This case is reported by Dr. Hare through the courtesy of Dr. Pepper.

THE MICROBE OF HEREDITARY SYPHILIS.—Kassowitz and Hochsinger state that they have discovered a special micro-organism, differing from the rods of Lustgarten, in the tissues of children suffering from hereditary syphilis. This microbe was found in the liver, pancreas, and osseous tissues, as well as in the skin (in pemphigus). It occurred in the form of streptococci arranged in chains. These were found in masses in the smallest capillaries, but were never seen in the cells themselves, being arranged around them. They were found chiefly in those parts in which the inflammatory process was most active, and seldom in tissues in which this process had run its course.

A SCARCITY OF SUBJECTS FOR DISSECTION.—The University of Dorpat has hitherto received its supply of material for dissection from the hospitals and prisons of St. Petersburg, but an order recently made reserves all these subjects for the students in the Military Medical Academy in that city, and the authorities at Dorpat are at a loss for material for their own students.

Progress of Medical Science.

THE MUSCULAR CONDITIONS IN FLAT FOOT.—In a recent lecture by Professor Humphrey, published in *The Lancet* for March 20, 1886, the speaker called attention to changes occurring in the muscles which add to the difficulty of effecting a cure of the deformity. The muscles on the tibial and flexor aspect of the foot become relaxed and enfeebled, so that they fail to exert their proper contractile power, and cease to afford their proper support and to effect the normal movements of flexion and incurvation. Hence, he said, the antagonistic muscles—the extensors and the peronei—not being duly stretched or extended, fall into a contracted and irritable condition, which in no small degree aggravates the deformity and the discomfort arising from it. And the condition is further increased, or it may in some cases be excited, by the demand made upon these muscles to steady and brace the tarsus when the foot is placed on the ground and the weight of the body is thrown over it. Their state is similar to that of the muscles on the outer side of the knee in cases of knock-knee, and of those occupying the concavities of the spine in cases of lateral curvature, and is analogous, he thinks, to that of the flexor muscles in cases of disease of the knee and other joints. This state is relieved by rest, especially if the rest is combined with extension by means of a well-applied splint, but it soon returns unless the treatment is continued for a sufficiently long period.

THE ETIOLOGY OF LATERAL CURVATURE.—Dr. E. H. Bradford concludes, as a result of some experiments made upon the cadaver (*Boston Medical and Surgical Journal*, March 18, 1886), that the deformity known as lateral curvature is the result of several factors, the chief being: 1, Superincumbent weight; 2, faulty attitudes, due usually to muscular weakness; 3, a condition of the bone structure of the spine rendering it incapable of resisting the effect of weight, analogous to that known as rickets of adolescence. The effect of weight on the head and shoulders would be, if applied in a vertical direction, to bend the spinal column forward and backward, but in flexible spines the superincumbent weight rarely falls in a direct line, and a lateral curvature follows. This is at first a physiological process, but it subsequently becomes, by the alteration in the shapes of the bones under altered pressure, a pathological change. The extent of the curve and its situation will be determined by the attitude habitually taken by the individual, and perhaps also by a difference in the resisting power in different parts of the column. The injurious effect of superincumbent weight in curving the spine is increased by the obliquity of the pelvis or the inclination of the shoulders so frequently taken by persons of weak muscular systems in sitting sideways and leaning. The curve is usually in the dorsal region, with the right shoulder raised, as the majority of people are right-handed. The distortion is one of growing years, and is more common to girls than to boys for two reasons, namely, that at the age when lateral curvature is usually seen first, girls grow more rapidly than boys, and their muscular system is less well developed, from the customary habits of life of girls in society. The effect of superincumbent weight upon a yielding spine in adult life, after the vertebræ have ceased to grow, is to cause an increase in the antero-posterior curve of the back.

PIPERONAL.—This is an aldehyde, corresponding to piperonilic acid, obtained as a product in the oxidation of piperina. It occurs in the form of small, white, prismatic scales, possessing a strong odor resembling that of vanilla. A small quantity placed upon the tongue produces a sensation analogous to, but more persistent than, that caused by mint, and it is more irritating to the mucous surfaces than is the latter. It melts at about

125° F., and at a higher temperature volatilizes without leaving any residue. When ignited the flame and smoke resemble the appearance of burning camphor. It is insoluble in cold water, but in hot water it melts, and looks like drops of oil; it dissolves readily in alcohol and ether. Dr. Riccardo Frignani has made a number of experiments with this substance (*Giornale Internazionale delle Scienze Mediche*, No. 2, 1886), as a result of which he states that it possesses both antipyretic and antiseptic properties. The antipyretic action is not of the most active or energetic kind, yet is sufficient in many cases. It is best given in fifteen-grain doses, repeated every two hours for three or four times a day, but much larger and more frequent doses are well borne. The most noteworthy disagreeable effects are nausea, eructations, and dryness of the throat. Its antiseptic action, however, the author states, is much more marked, and, since it is innocuous to the system, even when given in doses of one-half to one drachm, he believes that it is deserving of a high rank among drugs of this class.

Pilocarpine in the Relief of Itching in Jaundice.—A correspondent of *The Lancet* says he has used successfully, for this troublesome symptom, the hypodermic injection of one-tenth of a grain of pilocarpine. It caused some increase of the itching at first, but relief soon followed, and lasted from twenty-four to thirty-six hours.

Coexistence of Erysipelas and Scarlatina.—The coexistence of two or three forms of virus in the same individual is a question which is beginning now, in view of the new doctrines of bacteriology, to be an object of special study. Since Grancher published his observations on the coexistence in the same subject of measles and scarlet fever, it has come to be acknowledged very generally that one of the eruptive fevers can become grafted upon, or superadded to, another. In confirmation of these observations, Vigot reports a case observed by him in which the erysipelatous and the scarlatinous virus—or, in bacteriological terminology, the microbe of scarlatina and that of erysipelas—exerted their specific action upon the same individual at the same time. The patient was a girl, eleven years of age. The first disease to develop was erysipelas, which followed a contused wound near the eyebrow. In two days there appeared redness and œdema of the skin, the eyelids on this side were swollen and closed, and the temperature was 101° F. This condition lasted three days, when the signs of scarlatina—the sore throat and eruption—appeared, and the temperature rose to 103°. The scarlet fever followed its usual course and terminated in recovery. The erysipelas made no further progress. The conclusion drawn from this case was that the influence of the two diseases, or the two forms of virus, one upon the other, is nil, although possibly the course of the erysipelas may have been rendered more benign.—*Giornale Internazionale delle Scienze Mediche*, No. 2, 1886.

The Value of Lateral Incisions in Preventing Rupture of the Perineum.—Credé and Colpe strongly advocate a more free and early use of this measure than is generally made. This recommendation they base on an extended experience at the Leipzig Maternity Hospital, where they found, in 1,000 primiparæ, that out of 741 cases where lateral incision was not judged necessary, there were 104 ruptures, or fourteen per cent.; while in 259 cases where incision was made, and these, be it remembered, cases in which there appeared to be a probability of rupture, there were only 29 ruptures, or 10.7 per cent.; and of these not one was fatal. As regards the risk of infection, the writers do not find it greater where incision is made than in other cases; and they do not find that the operation leads to much weakness or deformity of the vulva, certainly not to so much as is produced by spontaneous rupture.—*Birmingham Medical Review*, March, 1886.

Hot Baths in the Treatment of Syphilis.—Dr. P. K. Kadkin records, in the *Meditsinski Sbornik*, No. 39, vol. xxii., a number of cases of syphilis in which he observed the effect of hot baths upon the elimination of mercury through the kidneys. As a result of his observations, he makes the following deductions: 1. Under the influence of hot baths mercury may be found in the urine of those syphilitic patients who are taking it. How long a time may elapse after the last dose of the drug has been taken before it appears is not definitely determined, but it does not exceed two months. 2. The method of inunction, obviously, cannot be employed in conjunction with hot baths, since the mercury would be immediately washed away. 3. After subcutaneous injections of corrosive sublimate the drug appears more quickly in the urine than it does after inunctions. 4. If the theory of Voit as to the mode of elimination of the syphilitic virus be correct, then this combination of hypodermic injections of the bichloride together with the simultaneous use of hot baths would seem to be the most rational, as in this way the mercury is the more speedily removed from the organism.

Vapor of Cubebs in Membranous Croup.—Dr. R. Couetoux relates, in the *Bulletin Général de Thérapeutique* of March 30, 1886, a case in which he obtained excellent results from the use of cubebs. The child was living under miserable sanitary conditions, and had also the disadvantage of being cared for by ignorant and careless parents. Various remedies had been tried, but without any beneficial results, and the child was apparently moribund, breathing with great difficulty, and able to like scarcely any nourishment. Dr. Couetoux then ordered about six drachms of powdered cubebs to be put in a vessel over a fire, and to be vaporized. This filled the apartment with a very strong and somewhat irritating, but not altogether unpleasant, odor. The child seemed to improve under this treatment, and it was ordered to be continued. But the following evening it was found that the parents had let the fire go out, and the child was apparently again at death's door. Another attempt was made, and this time the orders were obeyed, and the little patient began at once to improve and went on to recovery. A sister of this child, who was later seized with the same trouble, was also speedily relieved by inhalations of the vaporized cubebs. While not claiming any infallible specific action for this drug, the writer thinks that the results obtained in these cases would warrant further trial of the remedy.

Dystrophy of the Thumb-joints.—At a recent meeting of the Medical Society of London Dr. R. Maguire showed a case of dystrophy of the thumb-joints, in which inflammation of the carpo-metacarpal joints of both thumbs came on after the removal of two ovarian tumors in November, 1885. The arthritis had continued unabated, the veins about the joint were swollen, and there was an increase of temperature; grating between the arthritic surfaces could be obtained. The thenar eminences were a little wasted, but there was no reaction of degeneration, only generally diminished reactions to both currents. Menstruation had ceased since the ovariotomy. Pain was the first symptom in the left thumb; the right followed later. The reflexes at the wrists were perhaps a little exaggerated. Absence of rheumatism and gout, and the relation in time to ovariotomy, and the appearance of the disease when the joints were comparatively quiet, suggested a causal relation between the ovariotomy and the arthritis. In was connected not with congestion, but rather with anæmia of the genital regions. All treatment had proved of little avail. Mr. William Adams did not think it could be placed among the neurotic alterations in joints. Dr. William Ord believed that the case was one in which reflected "uterine" irritations were at work; the ovaries had been removed, but it was not known what the state of the uterus was.—*The Lancet*, No. 8, 1886.

A New Local Anæsthetic.—A crystalline substance has been obtained from the bark of the pomegranate, which, when placed on the tongue or other mucous surfaces, seems to produce a local anæsthesia similar to that obtained by the use of cocaine.—*American Druggist.*

Hysterical Sputum.—In addition to the known quantitative and qualitative alterations in the secretions and excretions in hysteria, Wagner has observed a special form of sputum, which is usually hemorrhagic in character, and may give rise to a suspicion of tuberculosis, especially if the patient has a cough and is run down in general health. This sanguinolent sputum is, he says, one of the most prominent symptoms of hysteria, and is to be distinguished from that of tuberculosis, of bronchiectasis, and of cardiac trouble, by its permanence and its uniformity. In quantity it amounts to from five to twenty-five drachms in the twenty-four hours. It may be occasionally of a gray color, but is usually reddish, and a little paler than ordinary bloody sputum. When kept for a time in a glass, a sediment forms of very small grayish particles. The sputum does not coagulate, and when examined under the microscope is found to contain fewer red blood-corpuscles than would be supposed. It contains also white corpuscles in greater or less abundance, ordinary pavement epithelium, and various forms of micro-organisms, but never any morphological elements which seemed to come from the lungs. The author was in doubt as to the origin of this sputum, but thought probably the blood came from little hemorrhages by diapedesis in the mouth; the presence of pavement epithelium would indicate a desquamative condition of the mucous membrane.—*Rivista Internazionale di Medicina e Chirurgia.*

Hematoma of the Sterno-cleido-mastoid in the New-born.—Dr. Otto Küstner writes in the *Centralblatt für Gynäkologie*, No. 9, 1886, giving his views of the etiology of this affection. He says that it is true that hematoma of the sterno-cleido-mastoid muscle is caused by a stretching of the muscle, but it is not true that this stretching is the result of direct traction upon the neck during efforts at extraction of the fœtus. Such direct traction, he maintains, is incapable of producing a rupture of the muscular fibres or small vessels. This accident can result only from torsion, with the head turned to the same side on which the rupture occurs. In order to show that this was the only way in which the muscle could be sufficiently stretched, the author took the body of a child and, laying bare the sterno-cleido-mastoid, inserted three pegs into it. He then made direct traction on the head, flexed and extended it, and moved it from side to side without causing any separation of the pegs. Rotation of the head to the opposite side did not move the pegs apart, but rotation to the same side separated them so widely that a third peg could be easily inserted between either of the others. He concluded from his experiments, and also from clinical observation, that this accident could readily occur in normal labors, and was no evidence that traction, either instrumental or manual, had been made during the delivery of the child; and furthermore, that it could be produced during delivery either by the head or the breech.

A Support for the Body During the Application of Dressings to, and about, the Pelvis.—It is always a difficult matter to support the body of the patient, especially if he is etherized, during the application of a bandage around the pelvis. Dr. Moritz Schustler describes, in the *Centralblatt für Chirurgie* for March 13, 1886, an apparatus, devised by Professor v. Dittel, which would seem to furnish an excellent support in such cases. It consists of two round steel bars, about the length of a man and three-fourths of an inch in diameter, joined at one extremity by a cross-piece eight inches long. The united extremities rest on the bed or table, under the patient's shoulders, while the free ends, together with the feet, are held by an assistant. The buttocks and legs of the patient are thus supported by the bars, and any desired bandage can be readily applied. The iron rods being smooth, can easily be withdrawn without disturbing the dressings.

The Treatment of Erysipelas by Zinc Paste.—At a recent meeting of the Medico-Chirurgical Society of Montreal, Dr. A. D. Blackader read a paper on the use of zinc paste in the treatment of erysipelas, especially in infants (*Canada Medical and Surgical Journal*, March, 1886). He reported several cases of the disease, two of which have been treated by the application of white zinc paint over all the erysipelateous surface, in the manner recommended by Mr. Barwell with white lead. The same advantages were claimed for the zinc as had been for the lead, without danger of absorption of any poison, which, in infants, was perhaps to be feared with the latter. These advantages were immediate relief to pain and restlessness, followed rapidly, as a rule, by subsidence of pyrexia and arrest of the disease. The fact that erysipelas was a constitutional, and not merely a local, disease was not overlooked; but it was contended that, if by these local measures we moderate and assuage the local inflammation, we at the same time control at least some of the factors in the systemic disorder. Special advantages were claimed for the zinc treatment in infants. The paste is easily applied, dries quickly, and forms a complete dressing by itself, which cannot be soiled by the secretions, nor easily rubbed off by the restlessness of the infant. If desired, some disinfectant may be added. Soap and warm water readily remove the zinc coating after the attack is over.

The Surgical Treatment of Chronic Eczema.—Dr. Max Bockhardt recommends the following drastic treatment in chronic eczema. The crusts having been removed, the whole affected surface is scarified with a double-edged lancet in two directions at right angles to each other. After the bleeding has been checked, the surface is rubbed with wadding or charpie, soaked in solution of potash, until the upper thick epidermic layer begins to loosen. Then the potash solution is washed off, and the surface covered with diachylon ointment or olive oil. After twenty-four hours the dressing is removed, and a water-compress applied. The appearance then resembles an ulcerated surface, and the part is dressed, once in three days, with pyrogallic ointment or solution of nitrate of silver. The cure is complete in fourteen days to four weeks. Relapses do not occur, and the elasticity and flexibility of the skin are not affected.—*London Medical Record*, April, 1886.

Pigmentation of the Conjunctiva in Addison's Disease.—Dr. Armin Huber, assistant in the Zürich clinic, records a case of Addison's disease in which the conjunctiva was the seat of pigmentation. The pigment was deposited in one minute patch on the scleral conjunctiva of the right eye, above the corneo-scleral junction, and on each side in numerous spots along the lower margin of the cornea. The patient was forty-nine years of age, and presented well-marked bronzing of the skin, besides suffering from gastric symptoms so frequently met with in Addison's disease. The writer remarks that he is only aware of one other observation of the conjunctiva being pigmented in this disease, namely, in a case described in Gerhardt's clinic.—*The Practitioner*, April, 1886.

The Nettle as a Hemostatic.—M. Rothe has employed the tincture of urtica dioria, or the common nettle, to arrest bleeding from cut surfaces. It is not of value in arterial hemorrhage, but answers all the purposes to which iron styptics are applicable, and is free from the inconveniences of these latter preparations.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 15, 1886.

A NEW VIEW OF THE PATHOLOGY OF GOUT AND RHEUMATISM.

DR. P. W. LATHAM, Professor of Medicine at Cambridge, has recently delivered a series of lectures upon the pathology of rheumatism and gout, which are well worth the careful study of the physician. Professor Latham speaks from the standpoint of a physiological chemist, and it must be confessed that his chemical discussions are recondite and perhaps beyond the average reader.

Yet, after all, the basis of Dr. Latham's view of the pathology of gout, rheumatism, and perhaps of chorea and many neuralgias, is not obscure. It is simply the old enemy, uric acid, acting under various masks and irritating the nervous centres in various ways.

Dr. Latham believes that he has solved the problem of the origin of uric acid in the human body. In the human subject, glycocine conjugated with cholic acid is poured out as glycocholic acid, a constituent of the bile, into the intestine. After the bile has served its purpose in digestion, the glycocine as well as taurine are returned into the blood. These, together with the other amido bodies, leucine, and possibly tyrosine, the products of the digestion of albuminous food, reappear in the urine as urea; that is, the urine does not contain them, but its urea is proportionately increased. Now, these amido bodies, glycocine, leucine, etc., are probably carried by the portal vein straight to the liver, and from certain facts we are led to the view that among the numerous metabolic events which occur in the hepatic cells, the formation of urea from these bodies may be ranked as one. Suppose from some cause this metabolism of glycocine is interrupted, while taurine, leucine, etc., still undergo the normal changes with the production of urea, we should then have in the gland the two substances, glycocine and urea (or the immediate antecedent of urea), the conjugation of which by the gland (just as in the case of hippuric acid being formed from the conjugation of glycocine and benzoic acid) would produce hydantoic acid, which, dehydrated, would be converted into hydantoin.

Hydantoin is easily soluble, and so would pass on in the circulation to be combined elsewhere with two molecules of urea or with biuret, which is also soluble, to form ammonium urate.

Put in other language, Dr. Latham supposes that the glycocine which results from intestinal digestion and biliary secretion passes to the liver. It is there not metabolized into urea as it should be, but is conjugated with urea and converted into hydantoin; this passes on to the kidneys to be combined with other molecules of urea or biuret, forming urate of ammonium.

Defective metabolism of glycocine in the liver is therefore, according to Dr. Latham, at the root of the over-production of urates and uric acid.

This imperfect metabolism results from an inactive condition of the liver, due to overwork of its cells or deficient innervation. The uric acid circulating in the blood is generally eliminated by the kidneys, if these organs be sound, as is usually the case in young and middle-aged persons. If it is not eliminated, however, it may cause the various neuralgic and gouty symptoms, and generally by irritating a sensitive portion of the nervous system.

This is Dr. Latham's view of the pathology of gout.

Rheumatism is due also to the over-production primarily of glycocine, and then of uric and lactic acids; but in this disease, the glycocine originates in a different way, viz., through an excessive production in muscle. Through changes in vascular supply, due to the reflex or direct effects of cold, damp, etc., the muscular metabolism is modified, and glycocine and lactic acid are produced, the former passes on to the liver, spleen, and other glands, and ultimately becomes transformed into uric acid.

Having demonstrated his view of the pathology of gout and rheumatism, Dr. Latham lays down some very interesting practical rules which govern his treatment of these diseases. We cannot do better than present them in their entirety to our readers:

First, the true salicylic acid obtained from the vegetable kingdom must alone be employed. If you have to give large doses, avoid giving the artificial product obtained from carbolic acid, however much it may have been dialysed and purified. An impure acid will very quickly produce symptoms closely resembling delirium tremens.

Secondly, give the acid without any alkali or base. A very good form is to mix one hundred grains with fifteen of acacia powder and a little mucilage. Allow the mass to stand and harden, and then divide into thirty pills.

Thirdly, place the patient fully under the influence of the drug—that is, let him have sufficient to produce cerebral disturbance, that is, buzzing in the ears, or headache, or slight deafness; with the development of these symptoms, the temperature and the pain in the joints will begin to decline. To an adult I generally administer three doses of twenty grains (six pills), at intervals of an hour, and, if the head remain unaffected, a fourth dose at the end of another hour; and then repeat the twenty grains every four hours, until the physiological effect of the remedy shows itself. In the majority of cases, from eighty to one hundred grains are enough. In severe cases, one hundred and forty to one hundred and fifty may be required. Afterward, about eighty grains a day are sufficient; and, as the temperarure declines, smaller quantities will develop their physiological effects, sixty or even fifty grains being then sufficient to produce cerebral disturbance. It would appear that, as long as the rheumatic poison is circulating in the system, the physiologi-

cal effect—that is, the effect it produces in the healthy organism—does not show itself; acting as an antidote, the greater the amount of poison, the larger must be the dose of the remedy; but, as soon as the formation of the *materies morbi* is stopped, then the excess of the remedy acts as it would in the healthy organism, and its pecuiiar physiological effects are developed. It is a very striking illustration of the difference between the therapeutic effect of a remedy and its physiological action.

Fourthly, give the patient from forty to eighty grains daily for ten days after all pain and pyrexia have passed away.

Fifthly, let the patient's diet consist entirely of milk and farinaceous food for at least a week after the evening temperature has been normal. On the other hand, if the patient have meat and soup, you may look forward with fair probability to a relapse.

Sixthly, take care to maintain a daily and complete action of the bowels. Calomel is the best purgative; from two to five grains at night, followed in the morning, if necessary, with a saline draught. This is the most important adjuvant to the action of salicylic acid, and I will presently explain to you why this is the case.

Seventhly, let the patient be enveloped in a light blanket, and with no more bedclothes than are sufficient to keep him from feeling cold. The object of the treatment now is to cool the patient—not, as in former times, to sweat the poison out of him; and the cooler he is kept, the sooner will the temperature be lowered. In fever, increased heat increases the metabolism, just as in a cold-blooded animal.

THE RECENT MEETING AT ST. LOUIS.

THE proceedings of the recent meeting of the American Medical Association reveal two facts which are worthy of special notice—one of omission and one of commission.

When the Code of the Association, its "palladium of honor," was assaulted in New York, there arose in its defence, in the Empire State, a central figure. When its ambiguous clauses needed a more definite interpretation than they had heretofore received, and the whole instrument trembled in its very foundation, this captain stepped into the breach and wrote with the hand of a master. In the planning and preparation for battles the strong arm of his counsel could always be traced, and in the thickest of the contest his bright plume could always be seen. He chased the mists of doubt away from his followers, and waged a vigorous and relentless warfare. His presence always lent inspiration, and his acknowledged wisdom and influence gave him the power of a general. For his loyalty and his labor he was rewarded with the highest professional honor within the bestowal of his *confrères*.

So recently has this faithful servant and ornament to the Association passed away that we can hear the rustle of the priestly robe around his bier, and yet—and yet *the hallowed memory of Austin Flint passed unnoticed*, save by the address of the President, whose official obligation demanded the recognition of the annual death list of his predecessors in office. For this body, then, his memory has been like a snowflake upon the sea, "a moment seen, then lost forever." Sad commentary on the life of a faithful and honored public servant.

When the Judicial Council re-opened the case of the Philadelphia County Medical Society it committed an essential error, one which has sacrificed its exalted position, and which will lend color to the statement that it has descended from the dignity of a high court of law to the low level of politics. It, being a body which makes its own rules of action, may have had the power exercised, but a decision having been made, written out, officially signed, and laid upon the table of either the President or Secretary—where by custom, if not by rule, it was entitled to take precedence of all other business—it should have remained the decision of the Council. If the evidence was incomplete the Council should not have rendered its decision. The fact that it handed down a decision must be accepted as evidence that the Council had heard the evidence, and had closed the case. From its decisions there is no appeal, and in this respect the Council is not unlike the Supreme Court of the United States. As well might this Court, after hearing the arguments in a case and handing down its decision, at once recall, rehear, and redecide the same, reversing its own decision, as for the Judicial Council to have pursued the illogical course it did. The plea in extenuation, that new evidence was offered, is invalid, and savors strongly of the methods of politics.

SOME EXPERIENCES IN THE TREATMENT OF DIPHTHERIA.

DURING six years Dr. P. Werner, of Narva, Russia, treated ninety cases of diphtheria. The death-rate ranged from sixty to seventy per cent. This high mortality, however, affected only the first seventy-three cases. Among the last seventeen only two died, and as these were moribund when Dr. Werner was called in, he thinks that he can say that practically he had no mortality in his last cases. This remarkable fall in the death-rate he attributes to a change of treatment. His treatment, as thus very wisely changed, consisted in giving corrosive sublimate internally, and rubbing ichthyol upon the swollen glands, together with the use of "milk and again milk," but no alcohol. He gave to a child one and a half year of age a mixture of one-fourth grain of sublimate in four ounces of water. This was administered every one-third or one-half hour, so that the child took the whole in twenty-four hours.

Dr. Paul Hesse has been using bromine in diphtheria, and thinks that, while it is no specific, yet in experienced hands it is a most useful agent, exceeding, in fact, all others. Hesse at first applied bromine locally every one to three hours, using the following solution:

℞. Bromin.,
Potas. bromid.....āā 0.5
Aquæ 200.00
M.

This solution he also dropped upon the sponge of an inhaler, and had it used in this way for five minutes every half hour. He finally gave up the local application and used only the inhalation, modifying the strength of the dose according to the severity of the case.

For the swelling of the glands of the neck, he used an "ice-cravat." Hesse's conclusions, based upon one hundred and fifty cases, are that bromine is the best agent for the local process in the throat. Early tracheotomy is the best thing against laryngeal diphtheria, and a stimulating treatment is the best thing for the general condition. These three things make up the treatment *par excellence* of diphtheria.

Dr. C. G. Rothe, of Alenburg, has for some time advocated the administration in diphtheria of cyanide of mercury, and he claims to have had under its use a mortality of from three to five per cent. only. Since April, 1885, Dr. Rothe has given the biniodide of mercury in place of the cyanide, using the following solution:

℞.	Hydrarg. biniodid.....	0.012
	Potas. iodid.....	0.20–30
	Aquæ dest.....	60.00
	Tr. aconit.....	1.00

M.

Of this, one teaspoonful was given hourly to children under three years of age, and more proportionally to older persons. Rothe claims that he treated forty cases in this way without a single death.

A very severe case of diphtheria was treated successfully by Dr. Richmond, of Greenwich (*Lancet*), by pencilling the throat with iodoform, and giving the same drug by inhalation. A study of the above contributions shows again how far apart the profession still is as regards the treatment of diphtheria, and how very much concerted effort in the study of its therapeutics is needed.

THE BACILLUS OF RHEUMATIC PERICARDITIS.

In June, 1885, Dr. Albert Wilson, of Leytonstone, Scotland, reported the discovery of a "micro-bacillus" in the exudation in a case of fatal pericarditis.

In the *Edinburgh Medical Journal* for April, 1886, Dr. Wilson reports a second case, and again describes the bacilli which were present.

The patient was a boy, twelve years of age, who had some rheumatic symptoms, culminating in a pericarditis from which he died. On autopsy the pericardial cavity was found filled with a sero-fibrinous effusion, and this, when examined under the microscope, showed short, non-nucleated bacilli, but no micrococci.

Dr. Wilson made some careful cultivation-experiments in flasks containing sterilized broth, and he found that the bacilli grew, developing nuclei at each end, and forming long threads of jointed bacilli.

Some interesting experiments were made to determine the relative power of salicylate of sodium and of quinine sulph. in checking the growth of this organism. It was found that while a two per cent. solution of quinine would entirely check its growth, it required a five per cent. solution of the salicylate.

This, Dr. Wilson thought, was in accordance with his experience, that while in rheumatism and rheumatic endocarditis the salicylates are most effectual, yet in pericarditis quinine did more good. This seems to us rather fanciful; but Dr. Wilson undoubtedly has seen and cultivated a bacillus which is to be found sometimes, if not always, in pericarditis. If it is the cause of the disease, and a two per cent. solution of quinine kills it, then it would seem as if the rational treatment of pericarditis is to wash out the pericardial cavity with the solution in question.

FOREIGN MEDICAL DELEGATES AND THE INTERNATIONAL MEDICAL CONGRESS.

Many, indeed, most of our foreign brethren, are in a state of mind as to what all the quarrel over the next International Congress means. And while in this condition of doubt and ignorance as to whether there is to be an International Medical Congress, or only a National Domestic Quarrel, they naturally do not care to plan for a trip here next year.

To these gentlemen we would say: We have had in this country certain disputes, mainly over the question whether the Congress organization should be controlled by the American Medical Association, a society of about three thousand members, or by the medical profession of sixty thousand men. In this dispute the American Medical Association has conquered, but by methods which have caused the resignation and withdrawal of the great majority of the American physicians best known abroad and at home. There will be an International Medical Congress, but, according to the present outlook, a Congress in which many of America's best physicians will be absent.

Still, we say to foreign delegates, You will meet a large number of able and hospitable gentlemen at the Congress, you will be made warmly welcome by all Americans, and you will hear no quarrelling while you are in the States. We know that many medical gentlemen in New York, Philadelphia, Boston, and other medical centres, debarred from receiving guests in an official capacity, will be glad to welcome all foreign visitors unofficially and pay them every hospitable attention.

THE ASSOCIATION AND THE CONGRESS.

The action of the American Medical Association in continuing the policy and organization of the Executive Committee of the International Medical Congress only fulfilled the general expectation. If the act had been done in a less arbitrary manner, without first excluding all persons likely to bring up any discussion or opposition, a general effort at co-operation might have been secured.

But the organization and management are definitely settled, and we have no desire now to hamper its future work. We do not think that hereafter the International Medical Congress will meet with any aggressive opposition or criticism. Its managers have chosen their course, and we shall be glad, for the sake of our country's reputation, to see them successful in it.

But how can it be denied that the medical profession of this country is now very imperfectly represented in the organization of the Congress? And how can fair-minded persons help feeling that it is a serious mistake for the men who now are connected with it to go before the world as representatives of the best of the medical profession of the United States.

A PERMANENT SPLIT IN THE AMERICAN MEDICAL ASSOCIATION.

Now that the American Medical Association has finished its session, and its members have dispersed to their homes, there must come to all a period of calm reflection. Such reflection can hardly fail to show that the Association has committed another serious error, and one from which it will not soon recover. We refer to the arbitrary refusal to admit the Philadelphia delegation. This delegation was the only one sent by the Philadelphia County Medical Society, it was duly accredited, and its rejection was a piece of injustice and folly so monumental as to make one wonder if the gods had not infused some mad frenzy into the minds of the Judicial Council. The immediate result of this act will be to alienate the profession of Philadelphia from the Association, and the sympathies of a very large majority of the profession not attached by political ties to the Association will go with them.

For it is again demonstrated that the American Medical Association has fallen into the hands of political managers whose unskilfulness and stupidity are so astounding that we feel inclined to commiserate more than condemn.

No doubt the American Medical Association believes that it can get along quite well enough without the cooperation of the leading physicians of Philadelphia, New York, Boston, and Baltimore, etc., but without them it can no longer call itself a national or representative body.

The American Medical Association will continue to live, and we trust will thrive, but it is permanently divided, and will, we fear, never again represent the whole American profession.

News of the Week.

MEDICAL DEPARTMENT, UNIVERSITY OF NEW YORK.—Dr. Wesley M. Carpenter, of this city, has been appointed Clinical Lecturer on the Practice of Medicine in the Medical Department of the New York University. This is an honor peculiarly well deserved.

DR. GEORGE H. ROHE'S name, as Chairman of the Section on State Medicine, was omitted accidentally in our report of the proceedings of the American Medical Association.

INTUBATION OF THE LARYNX.—Dr. O'Dwyer described his new process of intubation of the larynx at the New York Post-Graduate Medical School and Hospital on Friday, May 7th, before the students of the College and physicians of the city interested in this subject. Tubes of various shapes and calibre were shown, and the operation was demonstrated on the cadaver.

ANOTHER OF THE WOLF-BITTEN PATIENTS of Pasteur is dead of rabies, according to *Le Progrès Médical* of May 1st.

CHOLERA IN ITALY.—A considerable number of cases of cholera occur daily in various parts of Southern Italy. At Brindisi four or five new cases are reported daily.

STATISTICS OF M. PASTEUR'S HYDROPHOBIA PRACTICE.—At a recent meeting of the Academy of Sciences, Paris, M Pasteur announced that he had treated the following number of people from different countries for bites from mad dogs: France, 505; Algeria, 40; Russia, 75; England, 25; Italy, 24; Austro-Hungary, 13; Belgium, 10; North America, 9; Finland, 6; Germany, 5; Portugal, 5; Spain, 4; Greece, 3; Switzerland, 1; Brazil, 1. This makes a total of 726.

PASTEUR'S METHOD COMMENDED.—Dr. von Frisch, who was lately sent to Paris by a Vienna committee to inquire into Pasteur's system of inoculation against rabies, has given an account of his researches in a public meeting at the Town Hall. He unreservedly commended Pasteur's system, urging that it should at once be adopted by the medical profession in Austria. Giving some statistics on hydrophobia, he said that in Austria there had been 135 deaths from this cause in 1874, and 132 in 1875. In 1882 the mortality declined to 77, the lowest figure on record.

THE PICTORIAL SPIRIT OF THE AMERICAN MEDICAL ASSOCIATION.—One of the curious features of the last Association meeting was the way in which it was hippodromed by the daily press. The columns of the papers were filled with all kinds of gossip, biographical and personal notes, jocose comment, etc. To cap it all, there were issued each day some eight or ten pictures of those members supposed by the reporters to be leaders in medical science, or especially distinguished for personal loveliness. The list of the representative men of the Association pictorially presented is interesting. Naturally, St. Louis leads in number, not because she has the handsomest doctors, necessarily, but her geographical position at the time, no doubt, gave her an extra hold upon the artist reporters. Chicago follows close behind, and we are glad to note that Dr. Davis has the largest picture of all, being very near a three-quarters length. Philadelphia is represented by one L. D. Gross (?) and Dr. Atkinson. The classic features of the Association Secretary cannot be made unattractive even by a St. Louis woodcut. New York and Boston were, unhappily, not represented, but Jerseyville, Ill., and Bloomington of the same State have each an unusually handsome doctor. The great State of Texas, which produces annually millions of bales of cotton, or some other equally valuable product, had only one pictorial representative—an injustice which we trust will be properly commented upon by our fiery contemporary of Austin.

DR. JAMES S. MCKENZIE, of Baltimore, died on May 10th, aged sixty-seven.

AN ENGLISH CONTEMPORARY refers with some dismay to our figures showing the output of medical graduates in Chicago, and in some strange way credits us with speaking of this prolific production of doctors as "a service to the profession." We have not so regarded it. But contemporaneously with our announcing an annual output from Chicago of 285 regular and 215 irregular medical graduates, our esteemed contemporary, Dr. N. S. Davis, was congratulating Chicago upon its evidences of being a great medical centre. Hence, perhaps, some confusion.

A Testimonial to Professor von Troeltsch.—In recognition of the great labors for the advancement and development of the science of otology by that eminent surgeon, Professor von Troeltsch, his admirers in the profession have presented him with an address, accompanied by an album, containing the photographs with signatures of most of the eminent otologists of the present day. The address is a tribute to the energy and genius of the master, who, for more than a quarter of a century, has devoted himself to the scientific and practical development of otology. It testifies to his vast services in the study of the anatomy and pathology of the ear, and furthermore to our indebtedness to him for the introduction of many new methods of examination. His energy, directed toward the liberation of otology from the narrow bonds of specialism, and exerted for its equal recognition with the other sciences, by the state, as an object of instruction at the universities, is highly praised. The writings of von Troeltsch are ornaments of medical literature, distinguished by their clearness and descriptive power. The address concludes with the hope that the master may long be spared to his family, friends, and admirers, an adornment to the university, a noble example of scientific attainments. Among the many well-known names of otologists, of all countries, accompanying the address, are those of Sexton, Seely, Prout, A. H. Buck, and Orne Green, representing the profession in this country.

The Utility of Spaying.—We note with pain that our article upon the utility of spaying has been misunderstood by our intelligent contemporary *The Alienist and Neurologist*. We are credited with being serious champions of spaying until thirty-five per cent. of all womankind have had their ovaries removed. Our views with regard to unnecessary gynecological interference have always been so pronounced that we did not think it possible our article could be misunderstood. We fear that our St. Louis contemporary is not a "constant reader."

Homœopaths as Readers of Scientific Medical Works.—A prominent publisher of regular medical works has said that he sold more books, proportionately, to homœopaths than to regular physicians.

The Practice first established in medical journalism by The Medical Record, of printing a daily edition during the session of the American Medical Association, was adopted by our enterprising contemporary, *The Weekly Medical Review*, at St. Louis, last week.

The Medical Society of the State of Florida meets at Palatka on May 18th.

The Imperial University of Japan has been reorganized. One of its most important departments is the College of Medicine. This is presided over by Dr. Miyake, a physician of wide reputation and extensive learning. The main course of instruction is modelled after that in the German medical colleges; the foreign professors, of whom there are at present five, are also German. The course covers a period of four years, and the preparatory course three years more. There is also a course of lectures delivered in the vernacular, which is called the special course. The total number of students last year was nine hundred and seventy-two. The Medical School of Japan is eleven hundred years old. In its early days it was presided over by a superintendent and assistant, under whom there was one medical professor, one professor of acupuncture, one professor of massage, one professor of diseases of women, a teacher of materia medica, botanists, and a number of physicians. The whole course covered seven years.

The Sei I Kwai Medical Journal.—We are glad to learn that our esteemed Japanese contemporary is prospering, and is able to enlarge its valuable columns.

The Medical Department of the University of Pennsylvania.—Dr. E. T. Reichert has been elected Professor of Physiology, vice Dr. Harrison Allen, resigned. At the annual commencement, held May 1st, a class of one hundred and eighteen was graduated.

The American Laryngological Association meets in Philadelphia on May 27th, 28th, and 29th, under the presidency of Dr. Harrison Allen. A list of twenty-three papers, to be presented by as many members, is given in the programme; with a banquet on the 28th, and an excursion on the 29th.

American Medical Editors' Association.—The annual address before this Association was delivered by Dr. H. O. Walker, of Detroit. The officers elected for the next year are Drs. J. V. Shoemaker, of Philadelphia, President; Dudley S. Reynolds, of Louisville, Vice-President; William Porter, of St. Louis, Secretary. Ex-President Walker was empowered to appoint a committee to invite the editors of the Old World to attend the next meeting. The banquet given by the Medical Press and Library Association, at the St. Louis Club House, was an elegant affair. The toasts were numerous, the responses brilliant, and the attendance large.

A Maternity Hospital has been organized in Buffalo.

Another Endowed Medical College.—If we are correctly informed, the Medical Department of Eulane University of Louisiana (formerly the Medical Department of the University of Louisiana) is to be classed with the medical schools having a very substantial endowment. Aside from property valued at $80,500, the college gets its share of an annual income of over seventy-five thousand dollars (Report Commissioner of Education, 1884). Surely, with such resources, the New Orleans college ought to do better than simply require the old low standards for graduation, with no preliminary requirements whatever.

The Fifty-five Million Population of the United States have 89 regular medical colleges, with about 10,000 medical students; 8 of these medical colleges have each from 300 to 600 students, and 7 of these colleges have from 200 to 300 students.

The Missouri State Medical Association.—This Association held its annual meeting at St. Louis on May 3d. In the absence of Dr. Catlett, Drs. C. A. Todd and J. W. Jackson presided. A motion to have the Society meet at one place every year was lost. A number of scientific papers were read by title, and referred to the Committee on Publication. The Treasurer announced that the Society had a balance of $450 in the treasury. A resolution from the Woman's Temprance Union, re-

commending the teaching of the physiology with regard to tobacco and alcohol in the public schools, was not adopted. Dr. Griffiths, of the State Board of Health, read a communication setting forth the work of the Board, and calling attention to some points with reference to which it was of importance that the profession of the State should co-operate with the Board. The Association then elected the following officers for the ensuing year: J. W. Jackson, Kansas City, President; J.W. Moss, Columbia, First Vice-President; W. E. Fishel, St. Louis, Second Vice-President; C. L. Lamb, Hannibal, Third Vice-President; Linsley Brown, Hamilton, Fourth Vice-President; J. S. Gillette, Rich Hill, Fifth Vice-President; J. C. Mulhall, St. Louis, and E. Cave, Mexico, Recording Secretaries; R. F. Brookes, Carthage, Corresponding Secretary; J. H. Thompson, Jefferson City, Treasurer. The Society adjourned to meet next year at Macon City.

Boycotting a Professor.—The medical students of the University of Vermont, on May 10th, organized an open protest against their recently appointed Professor of Surgery. They refused to attend his opening lecture, and marched around town making a demonstration during the lecture-hour. The trustees elected Dr. Bingham to the chair made vacant by the death of Professor James L. Little. The students made a written protest against the appointment of Dr. Bingham, on the ground that he was not a man of sufficient experience, and that he had made serious mistakes in diagnoses and operations in clinics before the class. The trustees made an informa investigation, but did not alter their decision. The students thereupon voted to boycott the new professor. The students are doing a serious injustice to a gentleman of excellent surgical skill and reputation.

Typhus Fever in a Children's Asylum.—Five children from the Deborah Nursery, a Hebrew asylum of this city, and one from the branch at 95 East Broadway, are in Riverside Hospital with typhus fever. They caught it from Otto Schultz, who was hired by the nursery at Castle Garden a fortnight ago as porter. There are nearly one hundred children in each branch of the nursery, and more cases are expected.

The American Climatological Association held a very successful meeting during the past week in Philadelphia. Members were in attendance from New York, Baltimore, Michigan, Boston, Georgia, and other places. A resolution was adopted appointing a committee on the organization of a Congress of Physicians and Surgeons of the United States, this committee to confer with that of the American Surgical Association.

Female Medical Students in a Massachusetts Hospital.—It is reported from Boston that the surgeons and medical students in the operating room of the City Hospital were given a shock last week while a male patient was being treated for some genito-urinary disorder by the appearance of a bevy of female students from a local medical school, under the lead of one of their instructors. All took seats with the evident intention of viewing the operation. They were at once requested to withdraw, but refused to do so. The surgeon in charge then informed them that unless they withdrew he would not perform the operation, but this had no more effect than the previous request to withdraw. They still held their seats. Accordingly, operations were transferred to a private room, and they were left in the possession of the place, where they remained for some time. A fortnight ago a similar attempt was made by female students, with two of their instructors, to attend an operation here.

The Censorship of Members of the New York Academy of Medicine.—The New York correspondent of the *Journal of the American Medical Association* reiterates his statements that the New York Academy of Medicine has no machinery for expelling dishonorable members, and circulates the following story: "A Fellow of the Academy having done some action (which need not be mentioned here) believed to be worthy of censure, a member of the Council, a gentleman of refinement and great eminence in the profession, was asked to remonstrate with him in regard to the supposed offence; but when the latter attempted to do this, on more than one occasion, if the writer is correctly informed, he was coolly greeted with the polite advice to 'go to h—ll.' Now, what can the Academy do about it? In former times the course to be pursued would have been sufficiently plain, and there would have been no hesitation in taking suitable action." It would be interesting to know whether the correspondent is "correctly informed," he himself appearing to have some doubt. Certainly this is an unsavory and unauthenticated story. We hardly see how its relation can interest the readers of the *Journal* or benefit anybody.

The Illinois State Medical Society meets at Bloomington on the third Tuesday in May.

Recent Operations in Brain Surgery.—A few months ago a man was admitted into the Middlesex Hospital, under Dr. Cayley, suffering from coma, which had supervened upon a long-standing purulent discharge from the ear. There were no localizing symptoms. Mr Hulke trephined the skull in the lower part of the temporal fossa, and by means of a director explored the temporo-sphenoidal lobe, without result. The operation was unattended with ill results, but after the patient's death, a few days later, an abscess was found in the cerebellum. Quite recently a woman was under Dr. Cayley's care with similar history and symptoms, and intra-cranial suppuration was diagnosed. Mr. Hulke determined to explore the brain. In this instance he made an aperture in the cerebellar fossa of the occipital bone, and through a small incision in the dura mater he passed a director through the cerebellum in all directions, but without striking an abscess. Finding that the symptoms were unrelieved, he subsequently trephined the temporal fossa and opened an abscess in the temporo-sphenoidal lobe We believe these cases will be duly reported to one of the medical societies.

A very Broad Hint.—A physician in this city is said to have the following inscription on his bill-heads: "A patient's gratitude to his doctor is a part of his disease, and is most declared when the fever is highest, cools off during convalescence, and entirely disappears with the complete return of health. All bills due upon presentation. Office prescriptions and attendance strictly cash."

Reviews and Notices.

THE DISORDERS OF MENSTRUATION. A Practical Treatise by JOHN N. UPSHUR, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Virginia, Richmond, Va. New York and London: G. P. Putnam's Sons. 1886.

THIS little book is modestly called a student's manual, and a very practical and useful instructor it is for students. But it is not the student alone who may derive benefit from reading it, for it contains many valuable hints which will be of service to no small number of practising physicians when worried by a perplexing case of this nature. The work is divided into ten chapters, treating severally of amenorrhœa, menorrhagia, dysmenorrhœa, the neuroses of menstruation, pelvic cellulitis, vesical irritation, etc. It is written in a pleasant style, and the histories of illustrative cases are introduced wherever necessary.

HAWES' PHYSICIAN'S RECORD. M. E. Hawes, East Weymouth, Mass.

THIS is a simple pocket memorandum for daily records. Each page is so arranged as to record for one month a patient's pulse, temperature, general condition, etc. It is compact and attractively arranged.

ESSENTIALS OF PHYSICS AND CHEMISTRY. By CONDICT W. CUTLER, M.D., Physician to New York Dispensary. New York: J. H. Vail & Co. 1886.

THIS small pocket manual has been prepared principally for examination reviews. Its merits are completeness and simplicity. It is one of the best works of the kind we have seen. The subject of organic chemistry, generally difficult for medical students, is plainly set forth.

DOGS [IN HEALTH AND DISEASE. By JOHN SUTCLIFFE HURNDALL, R.C.V.S. Pp. 88. London: E. Gould & Son. 1886.

THIS seems to be a very complete, yet condensed, account of canine diseases. The author gets somewhat off the track in his "humble attempt to elucidate the great truths of homœopathy," and in his advice to buy remedies only of homœopathic druggists, etc. Twaddle similar to the foregoing occupies about one-fourth of the volume. The remainder seems to be fairly sensible.

A MANUAL OF ANIMAL VACCINATION. By DR. E. WARLOMONT, Member Royal Academy of Belgium, etc. Translated by Arthur J. Harries, M.D. 16mo, pp. 168. London: J. & A. Churchill. 1885.

THIS volume opens with some general observations on vaccination. The various methods of inoculation are discussed seriatim, and their relative advantages and disadvantages set forth. The author, while admitting the possibility of syphilitic inoculation, does not believe that any other disease is so transmitted. One valuable part is a bibliography of the chief works upon the subject.

UEBER ACETONURIE UND DIACETURIE. By Von DR. RUDOLF VON JAKSCH. Pp. 156. Mit sechs Holzschnitten. Berlin: Verlag von August Hirschwald. 1885.

THIS monograph by Jaksch furnishes a very complete and exhaustive description of acetone and diacetone, in all their chemical and pathological relations. It is quite an indispensable contribution for the student of the interesting and much mooted subject of acetonuria.

THE INSANE IN THE UNITED STATES AND CANADA. By D. HACK TUKE, M.D., LL.D. Pp. 265. London: H. K. Lewis. 1885.

No English or foreign alienist has taken the intelligent interest in the care of the insane of the United States shown by Dr. Tuke, and we are certainly indebted greatly to his candid and unprejudiced criticisms. The present volume is a critical summary of the methods of caring for the insane in a large number of American and Canadian hospitals, and it contains, besides, a considerable collection of statistical matter with regard to the condition of the insane, and insane asylums. Dr. Tuke opens his work with a most appreciative and interesting chapter upon Dr. Benjamin Rush, whose writings and practice show him to have had some of the same spirit that actuated Pinel, Conolly, and the Superintendents of the York Retreat. Dr. Tuke is severe in his criticisms of certain Canadian institutions; he also recognizes the evil results which politics and legislative parsimony have brought about in the care of the American insane. The potent influence of Dr. Gray was not strong enough to prevent a strong condemnation of the Utica crib, of which he says he found fifty in active use in one asylum. Dr. Tuke's book will be found an extremely useful one for persons desiring a lucid and unbiassed account of the condition of our lunacy laws and of our insane, more especially in the North and East.

WEITERE UNTERSUCHUNGEN UEBER PTOMAINE. Von PROFESSOR L. BRIEGER. Pp. 83. Berlin: Verlag von August Hirschwald. 1885.

PROFESSOR BRIEGER'S monograph gives an interesting historical account of the ptomaines, and also describes his researches with bacteria. He shows that the growth of certain pathogenic micro-organisms is accompanied with the evolution of certain ptomaines.

PROCEEDINGS OF THE NEBRASKA STATE MEDICAL SOCIETY. Seventeenth Annual Session. Held at Grand Island, May 26–28, 1885. Lincoln: State Journal Co. 1885.

THE report of the proceedings of the seventeenth annual meeting of this flourishing Society makes a handsome volume of upward of four hundred pages. The usual number of papers—some interesting, others not—were read, and the usual protest against the action of the New York State Medical Society upon the Code question (rather ancient history, by the way) was indulged in. The meeting was a decided success, and the papers, taken as a whole, reflect credit upon the physicians of Nebraska.

COCA, COCAINE, AND ITS SALTS. Their History, Medical and Economic Uses, and Medicinal Preparations. By WILLIAM MARTINDALE, F.C.S., late Examiner of the Pharmaceutical Society, and late Teacher of Pharmacy and Demonstrator of Materia Medica at University College; Joint Author of the "Extra Pharmacopœia." London: H. K. Lewis. 1886.

THIS is a little book of seventy pages printed in blue ink on green paper, a combination of colors which the author says is admirable for the sight, but which, perhaps because of its novelty, is not especially pleasing. The description given of coca and its alkaloid, and their uses in medicine, is admirable, and we can recommend the brochure as an excellent supplement to any of the standard works on materia medica written before the introduction of this most valuable drug into general use in medicine and surgery.

THIRD ANNUAL REPORT OF THE BUREAU OF STATISTICS OF LABOR OF THE STATE OF NEW YORK FOR THE YEAR 1885. By CHARLES F. PECK, Commissioner.

THIS is an exhaustive report on labor problems of the present. Separate chapters are devoted to strikes, boycotting, and arbitration. The scope of the Commissioner's work has included inquiries into the sanitary condition, etc., of factories, and that of the homes of the working classes. No essentially new information is adduced, but a salutary effect must follow this official examination of the subject. The officials of our New York City Health Board are taken severely to task for the filthy condition of certain parts of the city, but as long as this body is managed by politicians the chances for any improvement seem poor indeed.

Reports of Societies.

American Medical Association.

Thirty-seventh Annual Meeting, held in St. Louis, Mo., May 4, 5, 6, and 7, 1886.

(Continued from p. 536.)

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

WEDNESDAY, MAY 5TH—SECOND DAY.

DR. H. O. MARCY, of Boston, exhibited on the screen a number of cuts in treating of

THE LESIONS OF THE PERINEUM AND THEIR REPAIR.

These consisted of frozen sections, among others that of a woman who hung herself in the eighth week of pregnancy; another who died during parturition. He showed the bladder and rectum full and empty; the dissection and repair in operations on the perenium; showed Emmet's operation, complimenting his method of dissection; cuts from Hart, Henly, and Savage, and showed cuts of his own manner of operating, which he had reported to this Section two years ago. He also showed his "safety-pin," made of heavy German-silver wire.

DR. GEHRUNG, of St. Louis, presented sutures of his own.

DR. S. C. GORDON, of Portland, Me., said that for eighteen months he had used nothing but

CATGUT SUTURES IN PERINEAL OPERATIONS,

with the exception of the complete rupture. He makes the crescentic denudation; never has any trouble, pain, or discomfort, as there are no stitches to remove.

DR. WATHEN, of Louisville, Ky., in speaking of Dr. Gehrung's sutures, said they had some benefits, but they were more than overcome by the presence of the bodies on each side. He thought it best to use the suture which caused the least pain and perfectly adapted the parts. In incomplete laceration of the perineum a failure is the exception to persons of experience. The operation described by Dr. Marcy has value superior to the operation of Emmet. He thought that Dr. Marcy's needles would cause some pain by their mere presence. The advantage of Dr. Marcy's operation is that we do not destroy any tissue. Destroy no tissue, get perfect adaptation and union, and no septic matter can get in. He destroyed no tissue in a complete or incomplete rupture. Two great improvements are the manner of denudation and the saving of tissue by Dr. Marcy.

DR. GILLESPIE, of Tennessee, thought the time of operation of importance; after three days' delay he has had unusually good results. He prefers Emmet's plan, with the silver sutures and the straight, round needles.

DR. MARCY in reply said there was no amount of inconvenience or suffering from the pins if they are placed parallel and do not compress the tissues. He spoke of and showed sutures made from the tail of the fox, squirrel, and the kangaroo.

DR. E. W. CUSHING, of Boston, showed a number of microscopical specimens on the screen in discussing

THE PATHOLOGY OF EROSIONS, SO CALLED, OF THE OS UTERI.

DR. A. C. MILLER, of Cleveland, O., discussed the paper, and was replied to by Dr. Cushing.

DR. W. W. POTTER, of Buffalo, N. Y., read a paper entitled

SOME OBSERVATIONS ON THE UTERINE SOUND, WITH ESPECIAL REFERENCE TO ITS USE IN GYNECOLOGICAL THERAPEUTICS.

It was but a few years ago when a Ferguson's speculum, caustic-holder, uterine dressing-forceps, and Simpson's sound were an ample outfit for the practice of gynecology. The sound has been used in almost every malady peculiar to the pelvic organs, and I am sure it is in the range of truth to assert that this instrument has done woman more harm than any other used in the management of her diseases. The young physician is prone to its improper use, and, sad to say, causes often irreparable damage to the genital tract or health of woman. Nor is this animadversion applicable exclusively and alone to the professional novitiate, for many whose experience should have taught them better are guilty of the same. I myself am not holier than thou, but take a full share of blame for past misuse. My experience has taught me in every instance, in those cases which seem to invite its use for diagnostic purposes, most earnestly to use it with the utmost caution, circumspection, and gentleness. I would most strenuously insist that this instrument should be applied to only as a *dernier ressort*, and in juncture with extreme doubt. Have we not repeatedly seen endometrium so sensitive as to spring into violent inflammation as a result of contact with the sound? Metritis, both peri- and para-salpingitis, ovaritis, pelvic cellulitis, et id omne, are among the results. What, pray, may all these lead to? Were it possible to group together in one table where woman has been caused to abort by the use of the sound, what would be the array? Those indescribable symptoms, remote and reflex in character, also sympathetic, which we call neuroses—hystero-neuroses if you please, that are difficult to locate but unbearable—neuralgias, headaches, backaches, etc., count up a picture of woe pitiable to think about. Mr. Lawson Tait has found that in his own practice, as experience increases, his use of the speculum and sound grows less and less. This comes from the increased *tactus eruditus*. He says, educate the finger-tips. This were well, but few of us can reach the perfection of a Tait. However, the nearer we can come to attaining this, the better gynecologists we are and the less will we use the sound. The essayist said that the os uteri should always be patulous, and the endometrium free from disease before the sound is used.

When necessary, the delicate virgin-silver probe of Sims is better and safer than the Simpson sound. This should never be passed at the first interview. We should, if possible, avoid it until we are quite familiar with the topography and peculiarities of the sexual tract of our patient. We should wrap absorbent cotton about the instrument to serve as a cushion for the metal. He could not speak in too strong terms against the use of the sound to replace the retropoised uterus. He named this use of the instrument as barbarous practice, and recommended the intelligent and persistent use of manipulation and the genu-pectoral position. The sound has taught us some good things, chief among them being the better use of our fingers. He hoped that with the use of the better educated finger-tips the sound would grow less and less in demand and use, and we shall be rid of much of the opprobrium which the young and growing art, gynecology, is now compelled to suffer.

DR. GORDON, the president, in a neat speech complimented the paper very highly, and endorsed every word of it.

DR. GEORGE ENGELMAN, of St. Louis, arose to express his thanks to Dr. Potter for having expressed in words what the speaker had practised for years. He had quite a collection of sounds, but in the past three years had not used one of them. The finger is far more satisfactory and true. The sound is useless in the great majority of cases. We have used ergot, the applicator, and the sound to the great injury of women. We are progressing in gynecology by dispensing with these. He had even found it unnecessary to use the soft pliable sound wrapped with cotton. The finger must be used for diagnostic purposes far more frequently than it is. Injury from the sound is far greater than the benefit derived.

DR. C. R. REED, of Middleport, O., thought the pa-

per was too strong in its statements, as were also the statements of Dr. Engelman.

Dr. Eugene C. Gehrung, of St. Louis, agreed with the essayist, as far as the abuse of the instrument was concerned, that the sound should not be used for displacements. He had put himself on record two years ago in the *Archives of Gynecology*. He recommended manipulation. We all know that in certain fat persons manipulations cannot be made. The sound can be used if the gynecologist has the proper regard for life. The speculum is frequently so useless that one must pass his hand alongside of it to find what it is he sees.

Dr. A. C. Miller, of Cleveland, O., regarded this portion of the essay ridiculous. The man who has not the caution or the education to use the sound carefully should not use it at all. Who can take the measurement of the uterus, or differentiate between the uterine and cervical cavity, with the finger? The inflammation referred to by Dr. Potter was probably caused by septic matter carried in on the finger. If gonorrhœa or septic matter is in the vagina, it should be well cleaned out before the sound is passed.

Dr. E. S. McKee, of Cincinnati, read a paper, subject,

THE EARLY DIAGNOSIS OF PREGNANCY.

The author considered the opprobrium obstetrici our inability to make a prompt and positive diagnosis of early pregnancy. Reliable evidence is sadly deficient in the first months. This fact in mind, he turned his attention to the symptoms of the first trimestrium, particularly those of late discovery. First were considered those signs which might occur at the time of conception. A number were mentioned, but the only one thought to be of any value was the peculiarly voluptuous sensation and more general erethism experienced on fruitful intercourse. An enumeration of the symptoms of early pregnancy generally known was then made. What was true of the first of these, absence of menstruation, was true of them all, viz., there were numerous exceptions to any one of them, and the same condition might be produced by other causes. Hence very unreliable testimony.

Among the later signs was mentioned that of Jacquemier, the slate or purple color of the vagina. Anything which impedes the circulation may cause this appearance. Dr. Joseph Taber Johnson has made a good suggestion. He thinks the principle of the telephone could be used to hear, much earlier than usual, the feeble sounds of the fœtal circulation. Dr. S. C. Dumm thinks he can diagnose pregnancy as early as the fourth week by the odor of the vernix caseosa upon the examining finger. Dr. E. C. Gehrung was able to make the diagnosis by the fifth or sixth week by the sensation imparted on touching the ovum with the sound. This is rightly condemned as dangerous practice, while it may be simulated by a polypus or other foreign body in the uterine cavity, and in the early weeks the ovum is only attached to parts of the uterine walls, and the sound may glide by. Pinard and Didsbury have treated of a gingevitis which begins about the second month. Jorrisenne, basing his observations on the law formulated by Graves, that in hypertrophy of the heart the radial pulse remains the same, whatever the position of the body, maintained that instead of the usual variation of from 10 to 20 beats in the non-pregnant woman, the pulse of the impregnated remains the same. The essayist and others had investigated this symptom and found it quite unreliable. Dr. H. D. Fry thinks that a rise in temperature in the cervix to one degree or more above the temperature of the axilla is a strong presumptive evidence of impregnation, provided there is no local disease. The author had found this true, but had found the rise of temperature in the vagina to be of less value.

To Hegar, of Freiburg, we are indebted to the new sign of great promise which bears his name. This consists of an unusual resilience, compressibility, softness, bogginess, yielding, and thinning of the lower uterine segment, that is, the section immediately above the insertion of the ligamenta sacro-uterina. The shape assumed is that of a fan, balloon, or jug. The change is most apparent in the median line. According to Compes the examination should be made as follows: The thumb is introduced into the vagina until it reaches the cervix, and the index into the rectum until it reaches the ligamenta sacro-uterina; the other hand is placed over the abdomen immediately above the symphisis and pressed down toward the finger in the rectum. The rectal finger explores the cervix and the lower uterine segment in all its parts, and, lastly, the higher parts of the uterus. The examination is facilitated by pulling down the uterus with the volsella, and evacuating the bladder and rectum. The author thought this mode of examination thorough, yet repulsive to both patient and physician, as well as a difficult and hazardous procedure. He thought it quite possible in the majority of cases to make out all that is necessary with the finger in one of the culs-de-sac and the other hand externally. If this is not sufficient, it would be quite proper to make the examination as above described.

The bladder distended with urine and the uterus with menstrual blood may simulate Hegar's sign. These can be easily differentiated. Hyperplasia would show increased density. Subinvolution would increase the longitudinal as well as the transverse diameters. In marked retroversion a careful examination per rectum is often necessary to find the sign.

Dr. Reinl, formerly assistant to Hegar, says: "Among twenty-two cases, I missed this sign but twice, and found it earliest in the fifth week of pregnancy." Dr. Compes, present assistant to Hegar, has reported six cases. Dr. E. H. Grandin, of New York, reports eighteen cases, and says he can make the diagnosis prior to the eighth week by Hegar's sign alone. The author had a number of cases under observation, most of which had not yet had time to develop. One, a widow, acknowledged the opportunity, and believed herself pregnant. Repeated examination failed to find Hegar's sign, and she was assured that she was not pregnant. After thirteen weeks the menses returned, and were normal in amount and duration. The other was a young wife who, after a four months' absence from her husband, returned to him February 9th. She soon came under the author's care, and her case required a digital and specular examination two or three times per week. Three times in the sixth week Hegar's sign was made out. March 31st, forty-eight days after her return, she miscarried.

There remains to us, then, to again lament our inability, in many cases, to make a positive diagnosis of early pregnancy, to mourn the fallibility of many of the new and all of the old symptoms, to especially recommend the sign of Hegar, which until now has proven itself impregnable, and to plead for investigators in a field which should not be "barren or unfruitful."

Dr. Gustav Zinke, of Cincinnati, read a paper on

PUERPERAL FEVER AND THE EARLY EMPLOYMENT OF ANTISEPTIC VAGINAL INJECTIONS.

The essayist did not wish to bring before the Association puerperal fever in detail, but to consider the value and necessity of antiseptic or simply warm-water injections, as recommended for prophylactic purposes in normal cases of labor in private practice.

The doctor based his paper upon a case in his own practice, which runs, in brief, as follows:

Mrs. ———, twenty-six years of age, in the eighth month of pregnancy. She had been under the doctor's care for retroversio-uteri and old pelvic cellulitic deposits. The progress of gestation was normal until the end of the eighth (calendar) month, when she was delivered of a healthy child. The doctor, on being called, diagnosed threatened abortion, and gave codeia and chloral

hydrate—the former for the relief of pain, the latter to produce sleep. Delivery followed. The placenta came away spontaneously, and almost immediately after the cord was severed. The external genitalia were washed, the labor having been quite normal in course.

The case progressed nicely until the third day, when she had a chill, followed by a temperature of 106°, but scarcely any pain, and the lochia free and inoffensive. Two hours later she had another chill, and the temperature went up to 107.5°, and pain in the left inguinal region. Professor C. D. Palmer was called in consultation. It was feared that the high temperature was due to something in the uterine cavity, but this was not thought possible from the nature of the labor, and it was determined to await the action of quinia before washing out the uterine cavity. Carbolized warm-water injections and turpentine stupes were added. Temperature fell to 101°, then rose to 103°. Still slight tenderness in the hypogastric region and the lochia free from odor. Temperature reached 104.5°, when the uterine cavity was washed out with warm carbolized water, using the reflex uterine catheter. This was followed by some pain, but there was no decline in the temperature, neither was there a removal of anything suggestive of trouble in the uterine cavity. Later, under the use of tincture veratrum viridi and salicylate of soda with diet, the temperature fell.

Comparing the local manifestations with the range of temperature, the doctor became more and more convinced that the malady was not local in character. True, there were present physical signs of cellulitis, but they were not present at the beginning, indeed, this condition diminished, while the pulse and temperature continued high with distinct morning remission and evening exacerbation.

Was it typhoid or remittent fever? Diarrhœa, rose-spots, and stupor were absent. The husband then stated that about a month before her confinement she had complained of languor and chilliness. Was it, then, remittent? In all probability. My consultant did not concur with me. The seventeenth day after confinement the temperature was 99.5°, next day 101.4° and still rising. The next day, the doctor's orders not being followed, he retired from the case. She lingered along, part of the time under the care of a physician, but no record of the temperature being kept till the illness had reached two months in duration, when the patient recovered.

The questions which present themselves for consideration are:

1. Was this a case of puerperal septicæmia, remittent fever, or something else?

2. Could it have been avoided by the early use of antiseptic vaginal injections?

3. To what extent is the use of antiseptics, scientifically and practically, justifiable or necessary?

The essayist did not believe it to be septic, but if so, thought it did not enter through the parturient canal. Puerperal fever, he thought, should embrace those diseases only which occur during the puerperal state. He was satisfied that all cases of puerperal fever which find their inception in an external cause, through the obstetric channel, may, to some extent, be successfully mitigated or prevented by the early and frequent use of antiseptic vaginal injections. Scarlatina, measles, diphtheria, etc., find their way through other avenues, and often mislead the physician. Antiseptics in normal labor ought not to mean anything except ordinary cleanliness in every respect, the avoidance of frequent examinations and unnecessary aids, needless exposure in the support of the perineum, the tying of the cord, the delivery of the placenta, and the washing after labor.

Washing out the vagina immediately after normal labor he thought meddlesome midwifery, did no benefit, prevented nothing, and might do harm. In prolonged or instrumental delivery, if the hand has been introduced or if injuries have been sustained, vaginal injections are always, uterine injections rarely, indicated.

The doctor referred to a death after vaginal injections in normal labor in the practice of Dr. Cleveland, of Cincinnati, and to the writings of Drs. Lydston and Bartlett against the routine injection. He added further testimony by relating three cases which occurred in his own practice, in which ill effects were observed after vaginal injections most carefully performed. Out of nearly four hundred cases of labor attended by the essayist, the case reported was the only one which could be suspected of being puerperal fever.

Thursday, May 6th—Third Day.

DISCUSSION OF DR. ZINKE'S PAPER,

read day previous.

Dr. Charles Knapp, of Evansville, Ind., thought that from the action of quinia and the non-action of the intra-uterine injections the case was not of bacterial origin. He believed in antiseptic midwifery, because it was clean midwifery.

Dr. Sargent, of St. Louis, had very little use for intra-uterine injections.

Dr. Hunter, of Minneapolis, spoke

ADVERSELY TO INTRA-UTERINE INJECTIONS.

He had assisted in killing one woman by these injections, since which time he held great respect for the uterine cavity. He has had unfavorable results with 1 in 2,000 sublimate solution.

Dr. C. R. Reed, of Middleport, O., gave, in a few words, the history of cases which came under his observation recently.

Dr. Reamy thought the especial point aimed at by the essayist was the objection to the routine vaginal injection. The speaker wished to enter his protest against the routine vaginal injection of even simple water or water and soap. He does not deny the germ theory of the origin of disease, and that physicians and nurses may carry the means of infection, but wished to be placed on record as opposed to the routine injection. If you have septicæmia, then employ your germicides. Are we to think the vagina a foul crater? In the vagina of the woman recently delivered we find, after slight lesions, granulations. The employment of vaginal injections of simple warm water has a tendency to arrest granulation and prepare the woman for disease. If a vaginal injection does any good, we must wash out every hour; it is mockery to wash out one, two, or three times a day. The attending physician, to have this done properly, must do it himself, which is impossible. The nurse may throw a stream into the uterine cavity, and the patient die from the shock. It is dangerous to make a routine practice of injecting the vagina even with water, not to say chemicals. He wished to be understood as not against the germ theory, and in favor of intra-uterine injections under proper conditions after septic symptoms.

Dr. W. W. Potter, of Buffalo, asked where Dr. Reamy drew the exact line of beginning of septicæmia; sometimes this line is plain, sometimes it is not. He believed in letting well enough alone. If he had a purely natural labor he did not inject, but if he had gone in there instrumentally or manually he used the injection, fearing trouble. For washing out the uterus he recommended Chamberlain's glass tube, and said we should go up higher to find a faulty condition of the vagina. Before long we will be cremating every woman who has borne a child—she is so foul.

Dr. Zinke said in reply that he had brought this subject before the Section to vindicate himself; we owe not all to our patients, but something to ourselves. He felt very indignant when people blamed him for being the cause of all the trouble.

Dr. Franklin H. Martin, of Chicago, read a paper on

ELECTROLYSIS IN GYNECOLOGY.

The author first spoke of the theory of action, then described what took place in the normal tissue and in the

pathological tissue, or in pathological tissue mixed with normal tissue? He mentioned the principal advocates of electrolysis, and enumerated the diseases in which it was beneficial, viz., varices, polypus, nævi, epilation, hydrocele, bronchocele, extra-uterine pregnancy, hernia, hemorrhoids, epithelioma, and uterine fibroid. He also related his experience with an extra-uterine fibroid. This trouble is reported cured by this means by numerous authors. He gave the particulars of the application of the remedy, spoke of the mixed galvanic and faradic method, and showed his manner of applying electrolysis.

Dr. Ely Vandewarker, of Syracuse, N. Y., complimented the paper, and gave brief expression of his experience. He reported a case of solid uterine outgrowth to which he applied electrolysis. The operation proved to be very painful; the patient groaned and writhed under the pain, though anæsthetized. After eight days he observed a rise in temperature, and an abscess followed. The tumor was reduced in size, but the woman was very ill and barely escaped death. Two other cases have submitted to an operation, but the results have been negative.

Dr. Robert Newman, of New York, took great interest in the subject. He recommended weak currents. Instead of twenty, thirty, or eighty cells, we should use two, three, four, five, or six cells. The object is absorption. The strong current does harm; the weak causes absorption. In gynecology electrolysis has a wide field. The one great thing is, we have a safe and sure remedy to save the woman suffering from extra-uterine pregnancy. Do not use needles, use electrodes. In cases of hardened tissues, electrolysis has done much good in my experience. In malignant growths and cancers it has done good, and been followed by failure in stricture of the urethra in females. In my hands it has never failed. I hope the gentlemen will not forget to use weak currents.

Dr. Hulbert, of St. Louis, said he was an electrical crank. He reported some remarkable cures. He said we should measure the dose, as in other remedies, and thought Dr. Vandewarker's failures due to not having measured his dose.

Dr. George Engelmann, of St. Louis, said Dr. Martin had only brought this subject before them in a scientific light. He only touched on the results to be attained. He was surprised at Dr. Vandewarker's and Dr. Newman's speaking so indefinitely of strong and weak currents. He had always insisted on using the galvanometer. Know your dose. Cases had been reported here where cures occurred only after forty-five sittings. If you will measure your electricity, you will cure your patient in five or six sittings of five minutes each. The kind of electricity used is quite as important as the number of cells. Give a sitting of five minutes, and a strength of forty, fifty, eighty, or one hundred milliampères, according to how much the patient can bear; it may cause slight pain at first, but should not after that. Avoid the peritoneum if possible, but if necessary pass it through. He uses one needle and a large plate, fourteen by sixteen inches. The cells are gradually added, until the galvanometer shows enough.

Dr. C. R. Reed, of Middleport, O., read a paper on

The Imperative Necessity of Abdominal Section as Illustrated by an Unusual Case of Ovariotomy.

An ovariotomy to attract the attention of the profession at present must be unique and have some features of peculiar interest. The essayist reported a case showing the necessity of operation, and showing that the death of the patient would have been inevitable but for the abdominal section, which made the diagnosis at once clear and the treatment plain. The case suggested the following questions: 1. Was the ovarian cyst, with its attending adhesions to the descending colon, the cause of the obstruction of the bowels? 2. Would the exploring needle have made the diagnosis clear without abdominal section? 3. With the probability of the patient dying under the operation, would it have been better practice to have tapped with the trocar and deferred the removal of the tumor? 4. As has been shown by the large experience of Tait and others, that abdominal section and exploration is, under antiseptic treatment, attended with little or no mortality, is it not the imperative duty of physicians to open the abdomen in all cases of doubtful diagnosis, where general treatment has failed to relieve the symptoms? 5. In all cases of slight enlargement of the abdomen, attended with intestinal obstruction, as in this case, should the physician wait until symptoms of apparent dissolution occur before resorting to abdominal section, and should the operation be performed as a means of diagnosis only when the symptoms are urgent?

Dr. Crouse, of Iowa, reported a case which was not an ovarian tumor; he diagnosed unilocular ovarian cyst, operated and found encysted peritoneal dropsy, probably malignant in character.

Dr. Reed in reply said that he was called in consultation, did not see the woman three minutes before he operated, and asked the gentlemen to only put themselves in his place, and see if they would have done better.

Dr. W. H. Walthen, of Louisville, did not understand why the incision was enlarged from four to five inches; he thought four inches sufficiently long; it is necessary to make long incisions when a large, hard tumor is to be removed, or there are numerous adhesions. He failed to understand why the ligature was left to hang through into the lower angle of the uterus.

Dr. Van Emmon, of Kansas City, could not understand why—the woman being threatened with death, and having stercoraceous vomiting and enlarged abdomen—the case had not been diagnosed earlier; also, why he was not prepared in a laparotomy to make an ovariotomy, if found necessary. He did not understand why the woman, if not an opium-eater, was given half a grain of morphine sulphatis, hypodermatically, previous to anæsthesia; he did not know from the paper whether it was a mono- or a poly-cyst, in fact, whether or not it was an ovarian tumor at all.

Dr. Joseph Eastman, of Indianapolis, arose to take the part of the gentleman who had read the paper. It brings up the all-important question, What is the physician to do in such an emergency? Physicians in practice are not accustomed to going prepared for an ovariotomy. He did not agree with Dr. Walker that it was improper to leave the ligature hanging through the lower angle of the uterus. This was the way in which Dr. McDowell did in his first case.

Dr. Cushing, of Boston, supported the last speaker and the essayist. There is an old saying, "It is a good bridge which carries a man over." Dr. Reed's case recovered, and that is the main object in medicine. It was better to make the incision large enough than to tear the intestines in getting out the tumor. The gentleman had no trocar with him. Schroeder and Martin do not use the trocar. He thought it a worthless instrument, and only one more to keep clean.

Dr. F. T. Paine, of Galveston, Tex., gave a brief report of a remarkable case of congenital absence of the ostium vagina, and delivery by the anus. He was called in consultation by Dr. Sacks, of Galveston, and found a young married woman in labor with her first child; the most careful examination failed to find any trace of an ostium vagina or a cicatrix. The vagina was found to enter the rectum, and the menstrual flow had passed this way. The child was born per rectum. The patient had never known that she was not as other women, nor was her husband aware of it. They had been married a year, and had both enjoyed sexual intercourse.

Dr. W. P. King, of Sedalia, Mo, spoke on pelvic inflammation and accumulation; he spoke of the two classes of inflammation, septic and non-septic, and thought a fertile source of disease was the "hand grease." In

the physician's office this is put upon the finger or hand, and the finger or hand passed into the vagina or uterus. The sound is dipped into it and passed into the uterus. The cotton-wrapped probe had better be put in the sublimate solution. The proper point to open the abscess is in the lowest part, which is the vagina.

Dr. French, of Minneapolis, showed a simple device, in the shape of a retention catheter, made from a rubber tube and a pair of scissors. He had had an alarming hemorrhage follow the use of a small knife. He objected to the insufflators in general use, because they drew in some matter, which they held until next used, and then threw in septic matter; he preferred the insufflator having a valve like the ones used by the aurists.

Dr. Harvey, of Indianapolis, advised the use of the peroxide of hydrogen as an injection.

Dr. Potter, of Buffalo, thought the uterine sound the most common cause of pelvic inflammation; prevention of accumulation was the treatment. He used no arterial sedatives in inflammation. He believed, with Drs. King and French, that the sooner and earlier you evacuate the better.

Dr. Haggard, of Nashville, Tenn., spoke on prophylactic treatment. The introduction of the sound not infrequently produces inflammation. If we are more guarded with its use we will have less inflammation. We use intra-uterine medication too frequently.

Adjourned.

SECTION ON DISEASES OF CHILDREN.

Tuesday, May 4th—First Day.

Dr. W. D. Haggard, of Nashville, Chairman; W. B. Lawrence, of Batesville, Ark., Secretary.

Dr. J. M. Dunham, of Columbus, O., read a paper

ON DIPHTHERIA.

He believed it to be a purely asthenic disease with local manifestation in the throat.

In the discussion that followed, all supported the same view, except Dr. C. J. Lewis, of Chicago, who believes that the disease at first is purely local.

The Secretary read a paper sent by Dr. J. M. Toner, of Columbia, Tenn., on the

NON-IDENTITY OF MEMBRANOUS CROUP AND DIPHTHERIA.

Adjourned.

Wednesday, May 5th—Second Day.

Dr. Mary Harris Thompson, of Chicago, read a paper on

WHY DISEASES OF CHILDREN SHOULD BE MADE A STUDY BY THEMSELVES?

She said opium and alcohol should in all their forms be discarded as soon as safer remedies could be found, and she was confident it could be done if the subject was more thoroughly studied. The rules for physical diagnosis would not well apply to a child, because they were undeveloped, the child being small and fretful a correct examination could not be had. Adult remedies were not applicable to a child, even in reduced doses, and it was as important to save the life of a child as an adult.

The discussion was spirited, but the speakers were divided upon the necessity of using opium and alcohol as remedies. Some would not use either in any of their preparations, under any consideration, while a like number felt they could not practise intelligently without either drug in their preparations. Dr. Thompson, in closing, said the application of external heat would often answer the purpose of both drugs, which should be discontinued for moral reasons, if for no other.

THE FIFTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 14, 15, 16, *and* 17, 1886.

Professor Leyden, President, in the Chair.

(Continued from p. 544.)

Thursday, April 15th—Second Day.

The second session was called to order by Professor Jürgensen.

The subject selected for discussion was

DIABETES MELLITUS.

Its consideration was divided into two parts, the first of which was taken by Professor Stokvis, of Amsterdam. His paper was entitled

THE RELATION BETWEEN DIABETES MELLITUS WITH ALBUMINURIA AND NEPHRITIS.

While it is true, the speaker said, that diabetes is a well-established and often well-defined disease, in which certain parts of the central nervous system are more or less injured in their functions, all our knowledge of the nature of so complicated a disturbance of the organic functions of the body have so far been nothing more than theoretical speculation. Transitory glycosuria and permanent diabetes are vastly different, yet albuminuria may, and very often does, accompany both. Albuminuria complicating transitory glycosuria does not depend upon nephritis, but in diabetes the author had often seen albuminuria caused by true nephritis in its various forms, ending generally in atrophy and cirrhosis of the kidneys. Grape-sugar alone, or with other morbid products, is the cause of diabetic albuminuria and nephritis. The latter generally begins in Bowman's capsules and the glomeruli. Simple albuminuria does not make the case any worse; nephritis gives a more serious prognosis. Yet there are many cases on record in which the diabetic symptoms disappeared under the influence of nephritis, and the patients with cirrhotic kidneys lived for ten or fifteen years, remaining free from glycosuria. We observe, then, that the prognosis is not absolutely unfavorable when diabetes ends in renal disease, as the patient may live comparatively comfortable when he has exchanged his diabetic for a cirrhotic kidney. French authors maintain that cirrhosis of the liver, developing in the course of diabetes, may have a similarly benign influence for the time being. In managing such complications it is of first import to regulate and support the heart's action.

In

DIABETIC COMA

the author distinguished between the light and severe forms. The latter is the most frequent and sudden end of diabetes, unless acute phthisis develops, when the patient will die without showing any signs of coma diabeticum. He considered fatal diabetic coma to be a particular form of uræmia, caused by the accumulation of acetone and other morbid products in the circulation under the influence of complicating renal disease; or it might result from sudden and abundant production of acetone, etc., although renal disease were absent, coming on after unusual exertion—the fatigue of a long journey, an attack of indigestion, etc. In the lighter forms the treatment requires all our attention, and as to severe coma our measures must be prophylactic; we must try to prevent the attacks by careful supervision of our patients.

In the

TREATMENT OF DIABETES

the speaker followed Bouchardat and Cantani, prohibiting the carbo-hydrates absolutely, and he was pleased with the results so far obtained. He insists upon muscular exercise, by which alone the percentage of sugar can be greatly diminished, regulates all the other functions of the system, and counsels also moderation in eating and all other matters. Such general treatment is

particularly adapted to fat and gouty patients, when they show symptoms of diabetes.

PROFESSOR HOFFMANN, of Dorpat, had to deal with

THE VARIOUS FORMS OF DIABETES.

Although he did not deny the possibility of the existence of "Lancereaux's

DIABETES PANCREATICUS,"

he had not been able to satisfy himself by experiment or clinical observation that this form exists independent of morbid changes other than those in the pancreas. He recognized two forms of the disease, the first of which was

ACCIDENTAL DIABETES.

This was generally of cerebral or neurotic origin, after traumatic, toxic, or psychical influences, for instance. The course of this form is light and rapid, and in a number of cases the pancreas is often affected. It may get well or terminate fatally in the course of two or three years.

CONSTITUTIONAL DIABETES.

This is the second form, and its prototype is the diabetes occurring in fat, and sometimes gouty, people somewhat advanced in years. Here we have furunculosis, carbuncles, cataracts, comatose symptoms, and renal complications in the course of the disease. The disease runs a decidedly chronic course, and recoveries are rare.

While there may be grave and light forms in accidental diabetes, he had found the constitutional diabetic disorder almost always grave. This is important as to the prognosis of a given case.

In the

TREATMENT OF DIABETES

we must always remember that all the diabetic symptoms are caused by glycosuria, and that our main object must be to cure the former by removing the latter.

The author does not consider an absolute nitrogenous diet essential, nor even compatible with the welfare of the patient. The alkaline remedies, the opiates, active muscular exercise, or muscular massage where the patient is not able to take active exercise, and the observance of a good hygienic régime in general, are the means he relies upon in treating his diabetic patients. Salicylic acid he finds useful in recent and comparatively light cases; in the severe and chronic cases its use is fraught with danger on account of its depressing effect upon the cardiac organs.

PROFESSOR VON MEHRING, of Strassburg, who had worked in the laboratory on the subject of glycosuria and

THE GLYCOGENIC FUNCTION OF THE LIVER

for a number of years, has of late succeeded in producing glycosuria in dogs by injecting phloridzin into a vein. Phloridzin, a glucoside known for about twenty years, is obtained from the bark of the roots of pear and apple trees. He used one gramme to every thousand grammes of the weight of the animal. Glycosuria is at once produced, no matter what kind of food is given to the animal. The same experiments made upon dogs that had been fasting for two weeks and more had the same results; also upon dogs previously poisoned by phosphorus, and after extirpating the pancreas. He removed the liver from geese (dogs do not survive this atrocious procedure), introduced phloridzin, and produced diabetes. These experiments would go to prove that the process of sugar-production may go on in the system independent of the formation of glycogen in the liver; further, that in the severer forms of diabetes the albuminates are transformed into carbo-hydrates and sugar. He found, again, that in such cases the

SECRETION OF UREA IS NOT INCREASED,

as it has thus far been supposed, until symptoms of acetonuria have developed.

Diabetes has a more or less prolonged period of latency in the blood before sugar appears in the urine. Von Mehring agreed with Hoffmann that an absolute diet is unnecessary in the treatment of diabetes, and has invariably noticed considerable decrease, and even disappearance, of sugar from the urine after prolonged active and passive muscular exercise.

PROFESSOR FINKLER had made similar experiments, and has the records of thirteen cases of diabetes, in which he succeeded in reducing the sugar in the urine from four hundred grains to one hundred and fifty grains and less per day by

ACTIVE AND PASSIVE MUSCULAR EXERCISE,

allowing the patients to take small quantities of the hydrocarbons with their food. In some cases the sugar disappeared entirely. Massage properly applied for some time makes the patients perspire freely.

BINZ, of Bonn, believed that butyric acid is the product which is the main cause of diabetic coma.

NAUNYN, of Königsberg, placed himself on the side of Cantani, Bouchardat, and Stokvis as to the propriety of restricting the patient to an absolute diet, and had had the most satisfactory results with it.

FRIDAY, APRIL 16TH—THIRD DAY.

The subject for discussion at this session was the

THERAPEUTICS OF SYPHILIS.

PROFESSOR KAPOSI, of Vienna, said that his large experience had led him to look upon syphilis, in opposition to Bärensprung and other writers, as one of the most easily manageable and often curable of the infectious diseases. The better results obtained to-day are due to our improved methods of rational, energetic, and protracted treatment of syphilis by inunction with the officinal *ung. hydrarg.*, or by hypodermatic injections of the various preparations of hydrarg. He himself had a preference for the inunction method according to Sigmund's plan, and began treatment with that in almost all cases.

The speaker first considered the question of

THE LOCAL TREATMENT OF SYPHILIS.

"Have we," he said, "as yet found any method of promise in the local treatment of the initial lesion of syphilis in a prophylactic way? Can we prevent the infection of the system by excision or caustic destruction of the sacral morbi?"

For a number of years he had tried excision of chancres, destroyed them with caustics, had used hypodermatic injections of iodine and mercury into and around the infiltrated inguinal glands, but the results had been almost always negative with regard to the prevention of syphilis.

Belonging to the class of unicists who, by the way, are quite in the minority in Germany at the present day, he experienced no surprise at his disappointment in his attempts to abort syphilis.

The second point was that of the

GENERAL PREVENTIVE TREATMENT.

Kaposi looked upon general treatment, commenced as soon as induration of the chancre (scleroma) had developed, as impracticable. The outbreak of syphilis will be protracted and irregular, and the course of the disease rendered less favorable as a consequence of such attempts. Early tertiary symptoms have often developed when such treatment was followed. It is, therefore, both futile and injurious.

The various remedies used in treating syphilis we must consider as to their power to remove the specific lesions, and again to prevent their return. To arrive at a correct estimate we must have

STATISTICS;

but hospital statistics are of no value in this instance, the patients generally disappearing from under observa-

tion when the lesions have been removed; private statistics are not now attainable, and it would be greatly desirable that physicians should do some collective work in gathering the results of treatment of syphilis in private practice over a certain period of years. The relapse again into secondary or tertiary symptoms is important in judging the efficacy of remedies.

THE INUNCTION METHOD

with *ung. hydrarg.* the writer considered to be the most efficacious and reliable means of treating early syphilis, and he preferred the plain ointment to all other preparations, including Liebreich's lanolin ointment, of which he had not seen as good and ready absorption as of the old salve, even with the addition of olive-oil to the lanolin. Local lesions, such as obstinate ulcers, infiltrated glands, superficial gummata, require local treatment also, and he recommended a well adherent mercurial plaster for such purposes.

MERCURIAL BATHS

containing corrosive sublimate he used a great deal in the late forms of syphilis, such as rupia, etc., and with excellent results.

As to hypodermic injections, he believed with Bockhardt that those mercurial preparations are best which remain longest in the circulation. Emulsions of calomel may be used, as well as various sublimate solutions, with good results; but aside from the pain and frequent local disturbance which they often cause, he was satisfied that their efficacy in preventing syphilitic relapses is no better than that of inunctions—indeed, not as good.

The internal administration of calomel, sublimate, or protiodide of mercury he did not practise, but believed it to be efficacious.

Of all methods, the speaker found the inunction cure the best for the early forms of syphilis. In the later lesions iodide of potassium should be our main reliance. Even long-continued inunction with mercury produces no bad effects upon the system, but we must take care that the patient be properly fed, clothed, gets his warm baths, pays strict attention to his mouth and digestive organs, etc. Salivation must never be permitted. When this treatment is used assiduously, and with circumspection, hydrargyrosis and mercurial coloration of skin and mucous membrane will not take place. The mercury is constantly being eliminated, both with the fæces and the urine, and this elimination goes on for several weeks after treatment has ceased.

The iodide of potassium or of sodium was his remedy for the

TERTIARY LESIONS;

he began with 7½ grains, four times a day, gradually increasing the dose up to 30 grains, rarely more.

He did not favor heroic doses of these drugs.

In speaking of compound remedies, he said he had had much experience with

LITTMANN'S DECOCTION OF HERBS,

and praised it highly in the late forms of syphilis, particularly in obstinate ulcerations of the integuments. He often combined the inunction even with moderate doses of Littmann's compound morning and evening.

As to the so-called after-cures in the treatment of syphilis, he had not noticed any curative effects by the use of sea-baths, sulphur-baths, strict hydropathic treatment, etc.

The length of time required for the treatment of the early lesions varies according to their multiplicity and severity and the individuality of the patient. Kaposi advised long and careful treatment for from three to six months, and to repeat the cure only when relapses occur, not in order to prevent such, though he did not condemn the occasional repetition of a light course of treatment for safety's sake.

PROFESSOR NEISSER, of Breslau, hoped to see some good collective work done soon in order to establish the facillary character as important for diagnostic and prophylactic purposes of syphilis. Lustgarten's bacillus demonstration was probably correct, and was certainly very important. Being a dualist in his views as to syphilitic infection, he was in favor of destroying the initial lesion by excision, the active or galvanic cautery, or caustic chemical. Of the latter he preferred concentrated carbolic acid, as its application is safe, and not followed by inflammatory induration which might lead to diagnostic errors. His and others' results thus far in preventing syphilis by destroying chancres had certainly been encouraging, and he hoped that this procedure would be more generally practised.

WHEN SHOULD TREATMENT BE BEGUN?

None of us, he said, can tell in a given case whether it will run a mild or severe course, whether tertiary symptoms will come soon or late, or at all, no matter what treatment is instituted. We are agreed that the poison enters, generally incubates, and then spreads from the point of entrance and the neighboring vessels and glands. Why, then, wait with general treatment? Rather use every hour, every opportunity, for the prevention of the outbreak of syphilis and the destruction of its virus by local and general treatment, and begin with them at once. He agreed with Fournier that as mercurial treatment is curative it may also be preventive, and he began with it as soon as he had satisfied himself of the fact of the presence of an infecting sore. He further believed in treatment being continued for from two to three and four years, with suitable intermissions, and without regard to the presence or absence of characteristic specific lesions after the first period of latency. A chronic disease requires chronic treatment. Continuous treatment with small doses and proper intermissions was also, he said, practised abroad, particularly in America, if his information was correct, and has been found practical and salutary. As to the action of mercury, he would like to say, also, that it is proportional to the length of time it requires to be eliminated. He agreed with Kaposi as to the necessity of topical treatment of secondary lesions.

Among the materials in use for hypodermic injections he had found emulsions of calomel to be convenient and efficacious, although they caused some pain.

As to the dose of iodide of potassium, he gave as much as five drachms *per die* when there are urgent indications. He ordered the iodide in aqueous solution, or in milk, and found the latter vehicle quite convenient. When iodine, given by the mouth, did not agree with the patient, he injected hypodermically the tincture of iodine, or iodine in ether.

DR. LEONARD WEBER, of New York, was called upon by the Chair to open the discussion. He said that he appreciated the compliment paid to America in the invitation extended to him, and he thanked the gentlemen present in the name of his American brethren for the courtesy extended to him. He thought it might be of interest to his hearers to learn what are the main principles of treatment in use in the United States. The Americans recognized the great necessity of a rational, energetic, and long-continued treatment of constitutional syphilis; they treated the early forms with bichloride or the protiodide of mercury by the mouth, or by inunction with the gray ointment, and the late forms of the disease with iodide of potassium or of soda. The majority did not wait for the full development of constitutional syphilis before instituting general treatment, but began with it as soon as the diagnosis appeared to be secured upon the basis of induration of the sore and infiltration of the neighboring glands.

The mercurial preparation which the speaker used more than any other was probably the protiodide of mercury. The method of giving it in small doses for one, two, or more years, with suitable intermissions, has been introduced and urged by Keyes more than anybody

else in America. Many American physicians prefer the corrosive sublimate given by the mouth for the above purpose. The iodide of potassium or of soda is being given in the early forms also of syphilis, in the periods of intermission in the course of treatment with *hydrarg.*, and with advantage. In the management of relapses it is quite in vogue to order the patient to take a combination of mercury and iodide of potassium in solution. Experience has shown that in a series of cases of recurrent syphilis, with obstinate cutaneous and mucous lesions, better and quicker results are obtained by the so-called

MIXED TREATMENT

than by giving either of the two remedies alone. A minority of physicians—among whom was the speaker—prefer to begin general treatment with the inunction cure, carried out according to Sigmund's method. In a paper on "Locomotor Ataxia and Syphilis," read before the New York Academy of Medicine in 1884, and published in its "Transactions," and also in the New York MEDICAL RECORD in December, 1884, he said that his results with the inunction cure in the treatment of early constitutional syphilis during the last ten years of his practice had been better and more lasting than those which he had had during the previous ten years with mercurial preparations given by the mouth.

Hypodermic injections of mercury were not popular in America, and were not as yet systematically used by many physicians.

The favorable influence of Littmann's decoction of herbs upon some of the ulcerous forms of syphilis is not unknown in America; but the compound was not used as much now as in former years, when it was introduced to American physicians by Drs. Gescheidt and Detmold.

In serious and alarming cases of the later forms of syphilis, the iodide of potassium was generally given in rapidly increasing doses, and by some as much as five drachms and more *per die*. Van Buren, he believed, has introduced this method of giving large doses of the iodide. Seguin had of late emphasized it, and advised still larger doses, recommending, at the same time, that they be given dissolved in alkaline mineral waters immediately before meals. They are borne better by the stomach, he says, in this way, and he denies bad constitutional effects of such doses. The speaker did not think that a very large number of American medical men were convinced as much as Seguin of the necessity or advisability of these heroic doses.

In conclusion, Dr. Weber wished to say a few words with regard to fluid. calx. stilling. and other vegetable compounds which are recommended on and off by enterprising manufacturers in America as curatives to take the place of mercury or potass. iodide. Whenever such compounds have showed themselves as efficacious in the treatment of syphilis, such efficacy has depended, in his opinion, upon their purgative powers, and not on any inherent specific properties. With this remark he did not wish to hurt the great reputation which good fluid extracts of well-known drugs had made for themselves these many years. As Professor Leyden informed him some time ago, these American fluid extracts are beginning to find favor in Europe, and they well deserved it.

PROFESSOR VON ZIEMSSEN, of Munich, believed in early and long-continued treatment; he was not in the habit of giving heroic doses of iodide of potassium, and did not quite agree with the first speaker as to comparative benignity and sometimes ready curability of syphilis.

DR. SCHUSTER, of Aachen, spoke of the importance of controlling the continued elimination of hydrarg. by examination of fæces and urine for the presence of hydrarg. His remarks had been published in medical journals before, and he showed specimens of mercury obtained from fæces of mercurialized patients.

PROFESSOR LEUBE, of Würzburg, also favored the early and persistent treatment of syphilis.

PROFESSOR EDLEFSEN, of Kiel, also began treatment without delay, preferring the inunction cure. He was greatly in favor of the mixed treatment in suitable cases, whenever the therapeutic results do not come promptly in following out the inunction method. He was satisfied that considerable harm could be done by giving very large doses of iodide of potassium indiscriminately.

PROFESSOR BÄUMLER, of Freiburg, believed firmly in general preventive treatment, to be instituted with mercury as soon as the diagnosis is established. Believing in the bacillary theory of syphilis, he said the sooner we begin with destroying as many of the bacilli as we can by topical and general treatment the better it will be for the patient's future welfare. He advised iodide of potassium up to two and a half drachms *per die* in urgent cases only. Attention to the proper nutrition of the patient is of great importance in a disease which is capable of producing so profound a bacteria as syphilis.

DR. SCHUMACHER, of Aachen, recommended that every patient that had syphilis should be put through a course of specific treatment again before contracting marriage, though he might apparently be free from all symptoms.

SATURDAY, APRIL 17TH—FOURTH DAY.

The afternoon session of April 16th, and the last session on the morning of April 17th were devoted to the reading of short communications, presentation of specimens, patients, and new instruments and apparatus, and to executive business. The arrangements for social intercourse, dinners, etc., were excellent, the scientific meetings were all well attended, the discussions animated but courteous, and never personally aggressive; the speakers were generally to the point and spoke fluently, even eloquently, and Professor Leyden discharged the office of the President in an admirable manner. The Executive Committee also—consisting of Professors Leube, Jürgensen, and Dr. Pfeiffer—deserve praise for the very satisfactory way in which they had made all arrangements. On April 17th, at noon, the Congress adjourned.

THE FIFTEENTH CONGRESS OF THE GERMAN SURGICAL SOCIETY.

Held in Berlin, April 7, 8, and 9, 1886.

PROFESSOR V. VOLKMANN, PRESIDENT, IN THE CHAIR.

(Special Report for THE MEDICAL RECORD.)

THERE was a large attendance at the meetings of this Congress of Germany's best surgeons, and the profession at large was also well represented. The morning sessions were devoted to the presentation of cases, specimens, etc., and to the reading of short clinical communications, the regular papers, of which there were thirteen, being read in the afternoons. The latter did not contain any very startling discoveries, but were, nevertheless, full of interest and of considerable practical value.

DR. KRASKE, of Freiburg, read the first paper, on the

ETIOLOGY AND PATHOGENESIS OF ACUTE OSTEO-MYELITIS.

Rosenbach's microbe, "staphylococcus pyogenus aureus," held to be the specific cause of osteo-myelitis by some observers, can by itself and alone produce the disease in man. But other microbes, such as staphylococcus pyogenus albus, streptococcus, etc., may be of influence besides the "aureus." Such cases of mixed infection are particularly serious, and the demonstration of the various forms of micro-organisms is important as regards the prognosis of the disease. Finally, it is probable that every pyogenic microbe can occasionally excite acute osteo-myelitis. The specific microbe can enter through the skin, when inflammatory products are present in the integuments containing pyogenic staphylococci, through the lungs, and probably also through the alimentary canal.

But with the demonstration of the organized poison we have not yet arrived at an understanding of the real nature of the disease. As to the predisposing causes, it appears that an individual having had the disease once is more liable to be attacked again.

PROFESSOR ROSENBACH, of Göttingen, then presented a communication on the

ETIOLOGY OF TRAUMATIC TETANUS IN MAN.

We have not yet, the author said, arrived at a satisfactory explanation of tetanus. There is no direct relationship between a wound and tetanus, although wounds containing foreign bodies, gangrenous wounds, and gunshot wounds of the thigh and leg, are liable to be followed by this accident. Dogs are refractory to inoculations with blood or pus taken from tetanic patients, but the same procedures yield positive results in rabbits, guinea-pigs, and mice, and the author found the specific microbe to have the bacillus form, and thought that it causes tetanus by the secretion of a strychnia and like poison.

DR. LANDERER, of Leipzig, followed with a paper on

TRANSFUSION AND INFUSION.

Direct transfusion of defibrinated blood, he said, has not yielded good results; somewhat better had been the success with the alkaline solutions of chloride of sodium recommended by Kronecker and Sander. But even this method was unsatisfactory, as the fluid introduced contained almost no nourishing material, and patients having lost about two-thirds of their blood (four and one-half per cent. of the weight of the body) generally died in spite of the infusion of the alkaline liquid.

The speaker took up transfusion of blood again, using defibrinated blood with four parts of an alkaline solution of chloride of sodium. With this solution he experimented successfully on animals first, and saved the life of one patient also. As much as 1,000 to 1,200 c.c. can be slowly introduced at one sitting without danger. Still better results are obtained by adding three per cent. of cane-sugar to the alkaline solution, which he did upon the suggestion of Professor Ludwig in Leipzig.

PROFESSOR KOCHER, of Berne, read a paper on

EXTIRPATION OF THE THYROID GLAND,

in which he again drew attention to the fact, first brought forward by him three years ago, that extirpation of the entire thyroid gland in the adolescent will be followed by cachexia leading to idiocy, and he maintained that the operation should never be performed upon children and young persons.

DR. KÖNIG, of Hanover, presented a communication on

OPERATIONS FOR STONE IN THE BLADDER.

He advised the median perineal operation for small stones and small movable foreign bodies; sectio alba for large hard stones, encysted stones, large foreign bodies, and in cases in which a great number of stones are present. His success with "sectio alba" was anything but satisfactory, having lost four out of five cases. One of the fatal cases was that of a man seventy-five years old, from whose bladder were removed seventy stones, and thirty more were found post-mortem.

In the ensuing discussion, Bergmann, of Berlin, Roser, of Marburg, and Trendelenberg, of Bonn, were in favor of the high operation; Volkmann, König, and Schede of perineal section; and Ebermann, Schönborn, and Fürstenheim, of litholapaxy whenever practicable. Volkmann in particular recommended the "boutonnière," with which he had had most satisfactory results for many years.

It was the method practised by the empirics of former time, who relieved many sufferers, until the operation got into the hands of the scientific surgeons, who used the knife too freely and frequently lost their patients.

Bigelow's operation was highly spoken of, but it is not as frequently practised in Germany as it might be. The German surgeons are familiar with the splendid results obtained with Bigelow's method by Sir H. Thompson, but it appears the technique of that operation is found too difficult by the general surgeon here.

The last important paper was on the

TREATMENT OF LATERAL CURVATURE,

by PROFESSOR LANDERER, of Leipzig. Lateral curvature, he said, is mainly produced by anomalous conditions of certain muscles of the spine. For the purpose of restoring those muscles to normal action, he has found massage more useful than gymnastics. The corset he has discarded altogether.

DR. VOLKMANN agreed with the author of the paper as to the good influence of massage, but also employed the hot and cold douche applied to the back, and found the corset to be necessary for part of the day at least. Disturbed muscular action he thought was not the only cause of lateral curvature.

AMERICAN SURGICAL ASSOCIATION.

Seventh Annual Session, held at Washington, D. C., April 28, 29, 30, and May 1, 1886.

(Continued from page 543.)

FRIDAY, APRIL 30TH—THIRD DAY—AFTERNOON SESSION.

THE discussion of Dr. Keen's paper was taken up.

DR. B. A. WATSON said that this is a comparatively recent operation, and one with which we are not as yet perfectly familiar. We know very little as to the changes to which the cure is to be attributed. That nerve-stretching is advantageous in neuralgia and in certain cases of epilepsy and certain spasmodic convulsions had been demonstrated. Whether the relief is due to the gross changes in the nerve, to molecular changes, or to both, has not been thoroughly determined. In this particular case it would seem that elongation of the nerve possessed advantages over neurectomy. Neurotomy, even in the successful cases, gives but temporary relief. He could only commend the paper and the operation, and particularly the use of electricity for finding the nerve.

DR. W. W. KEEN thought that a large part of the effect of stretching is due to the gross mechanical disturbance of the nerve-trunk, interfering with nerve conduction, and a large element he thought was the physiological rest which is secured to the muscle. This at the same time aids in breaking up the vicious habit. The nutrition of the nerve is probably also affected.

DR. C. H. MASTIN, of Mobile, read a paper entitled

SUBCUTANEOUS DIVISION OF URETHRAL STRICTURE.

The history of the operation for external urethrotomy was first considered, and next was described the various methods which have been proposed for its performance. The objections to these were then gone into at length; the main objection to most of them is that they leave an open wound in the perineum to heal by granulation.

External urethrotomy is called for only under special circumstances. It has been laid down as a rule that where water can escape through a stricture the surgeon should always by patience be able to get an instrument through the stricture. The speaker thought there were exceptions to this rule.

The indications which render the operation necessary are:

1. The impossibility of passing a sound into the bladder through the urethral canal, where a firm organic structure blocks up the urethra, and dilatation or internal urethrotomy are not available.

2. In cases where a tight stricture has ruptured and an abscess has formed. Under such circumstances it is necessary to open the abscess, and it may be well to carry the incision farther and lay the stricture open.

3. Certain cases of old tight stricture complicated with urethral fistulæ through which the urine is passed in the act of urination. In almost all these cases, however, as soon as the lumen of the tube is restored, the fistulæ heal. The writer prefers internal urethrotomy in such cases.

4. A most important indication which may arise is rupture of the urethra by a blow, the effects of which are violent and severe.

5. Traumatic stricture, that is, where the stricture is the result of direct injury to the urethra. In these cases ordinary dilatation is inefficient and internal urethrotomy is often of little or no benefit.

6. A calculus impacted behind a stricture may be an indication for external section.

7. When extravasation of urine has occurred from sudden rupture of the urethra, and which is followed in a short time by extensive sloughing of the penis, scrotum, and groin.

8. The last indication is one in which Mr. Reginald Harrison recommends combined external and internal urethrotomy with the introduction of a large tube.

Having decided that external section is required, the question is which operation gives the best prospects of success and is most readily performed. The claims of the various operations proposed were then considered.

The author next described the operation which he had employed with entire satisfaction since 1868. The patient, being properly prepared, is put in the ordinary position for cystotomy. An anæsthetic is administered. A tube, open at both ends, is then passed down to the stricture. This protects the walls of the urethra, and puts on the stretch the face of the stricture. The tube is then filled with small whalebone probes, and one after another is tried with the hope that one will enter the stricture. This being accomplished the tube and probes are removed. The probe engaged in the stricture is then pushed forward and a Wheelhaus sound carried down to the stricture. An incision half an inch in length is then made in the anterior wall of the urethra, on the groove of the sound. The sound is withdrawn a short distance and the whalebone bougie sought for as it passes through the stricture and drawn out of the original wound. Over the probe a gorget is passed, having its blade upward. This is passed downward, cutting the stricture on its superior face. A catheter is then passed along the entire urethra into the bladder, and the urine evacuated. The stricture is then examined to determine whether or not any points of narrowing still remain. If there are, they are divided.

If, in the first instance, it is found impossible to pass the whalebone bougie, a staff with a deep groove is passed through the stricture and a small opening made. A whalebone bougie is then passed through the stricture and the operation is completed, as in the previous case. After operation a full-sized ordinary soft catheter is introduced to the prostatic portion of the urethra, but not into the bladder. The patient is put to bed on the left side, and directed to push the catheter into the bladder when the desire to urinate is felt, and to withdraw it beyond the neck of the bladder, but not through the stricture, after the urine has been passed. This is used only for the first twenty-four or thirty-six hours, to protect the wound from the contact of the urine. The speaker was opposed, on general principles, to allowing a catheter to remain in the bladder. At the end of the time mentioned the catheter is dispensed with. Immediately after the stricture has been incised and the calibre of the urethra restored, the external wound is closed with three fine pins, passing sufficiently deep to grasp the walls of the urethra. These are removed in from four to six days. In the course of eight or ten days the patient is able to return to his work. The maximum calibre of the urethra is restored by the use of graduated sounds.

The advantages of this operation are, the short time of confinement for the patient, the freedom from hemorrhage, the quick union by primary adhesion, and the small amount of cicatricial tissue left.

Dr. David Prince, of Jacksonville, Ill., said that he had seen enough cases to give him confidence in a particular method of treatment. About twelve years ago he became aware of the power of the negative pole of a battery to resolve neoplasms, and he had applied this principle with success to the treatment of stricture of the urethra. A catheter, connected with the negative pole of the battery, is passed down to the stricture, and the circuit completed by placing a sponge electrode, connected with the positive pole, over the sacrum, so that the distance between the two poles will be as short as possible. This treatment is frequently repeated, and in a number of cases he had found the result entirely satisfactory.

Dr. Dunott remarked that his experience in dealing with so-called impermeable or impassable stricture had not been small. He had been able to deal with them, even when there was great induration, almost without exception, by the ordinary internal urethrotomy operation. In fifty or sixty cases seen within the last twelve years he had been compelled in but one or two instances to perform external section. He thought the main reason that external urethrotomy is so frequently necessary is want of patience on the part of the surgeon. Almost without exception, where one drop of urine will pass through the urethra, he believed a guide could be gotten in, provided the surgeon had the patience to wait for it.

Dr. J. Ewing Mears offered an amendment to the by-laws, providing for the appointment of a committee of five, of which the President shall be chairman, to have charge of the preparation of the scientific work of each session. Laid over until the next meeting.

The President announced the following committee on the proposition looking to the formation of a Congress of American Physicians and Surgeons: Drs. C. H. Mastin, Charles T. Parkes, J. Ford Thompson, J. Ewing Mears, and N. Senn.

The officers elected were as follows:

President—Hunter McGuire, M.D., Richmond, Va.

Vice-Presidents—T. F. Prewitt, M.D., St. Louis, and J. W. Gouley, M.D., New York.

Secretary—J. R. Weist, M.D., Richmond, Ind.

Recorder—J. Ewing Mears, M.D., Philadelphia, Pa.

Treasurer—P. S. Conner, M.D., Cincinnati.

Council—Drs. Hunter McGuire, John S. Billings, L. McLane Tiffany, R. A. Kinloch, and Moses Quinn.

Honorary Members—Foreign, Sir William MacCormac; *American*, Professor Henry J. Bigelow.

Active Members Elected—Drs. H. H. Mudd, St. Louis, and Joseph Ransohoff, Cincinnati.

Time and place of next meeting, the second Wednesday of May, 1887, at Washington.

Adjourned.

The Microbe of Dysentery.—Drs. Condorelli-Mangeri and Aradas made a special study of an epidemic of dysentery occurring at Catane, and believe that they have discovered the specific microbe of this disease (*Rivista Internazionale di Medicina e Chirurgia*). The microorganism is a bacillus, and is found usually in long chains. It was constantly found in the dysenteric stools, and also in the air of the hospital wards in which the patients were received. The same bacillus was also discovered in the water of two wells from which the inhabitants of the village had drawn their supply. Experiments on animals also tended to confirm the belief that this microbe was the cause, or accompaniment, of dysentery.

Vaccination for Whooping-cough.—Dr. Entriken has vaccinated numbers of children suffering from pertussis, and claims by this means to have arrested the disease in almost every instance.—*Cincinnati Lancet and Clinic.*

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

Eighty-eighth Annual Convention, held at Baltimore, Md., April 27, 28, 29, and 30, and May 1, 1886.

(Special to THE MEDICAL RECORD.)

(Concluded from p. 507.)

THURSDAY, APRIL 29TH—THIRD DAY.

THE Session was opened by the reading and adoption of the minutes of the previous day, after which the

REPORT OF THE SECTION ON OBSTETRICS AND GYNECOLOGY

was presented, the first paper being one from the Chairman of the Section, DR. B. BERNARD BROWNE, entitled

THE CURETTE, OR THE FINGER USED AS A CURETTE, AS A DIAGNOSTIC AND THERAPEUTIC AGENT IN GYNECOLOGY AND OBSTETRICS.

The following were the writer's conclusions: 1, The curette is an important diagnostic agent in all obscure affections of the uterus; 2, its use is less painful and less likely to set up cellulitis than the ordinary caustic and alterative applications; 3, it is more efficient than any other agent for the removal of intra-uterine growths; 4, after abortions its proper use will prevent hemorrhage and septicæmia; 5, after labor the antiseptic fingers or hand, used as a curette for the complete evacuation of the uterus, will lessen the dangers attending the puerperal woman, will prevent fetid lochial discharges, and hasten the period of involution.

DR. GEORGE M. MITTEN BERGER then presented a communication on

PUERPERAL ECLAMPSIA.

He regarded this affection as not peculiar to the puerperal state, but as one occurring in other and widely separated conditions. Convulsions occur once in from three hundred and fifty to five hundred cases. The author did not believe that true eclampsia was always dependent upon renal affection, but held to the view of Seyfert, that albuminuria was in many cases the effect or the concomitant, and not the cause of the convulsions. In pregnancy, complicated with chronic Bright's disease, eclampsia was of rare occurrence. He believed that puerperal convulsions were due to changes in the medulla oblongata, the pathology of the disease consisting in increased or exaggerated excitability, irritability, or impressibility of this part, caused by continued and persistent irritation of the nerves of the genital apparatus. These are the peripheral causes; the central causes are intracranial congestion or anæmia, vitiated blood, and psychical influences, such as joy or grief. The cause being twofold, the treatment is the same. Of all sedatives to the nerve-centres, the writer regarded blood-letting as the most powerful and the most immediate in its effects. But it is, of course, only to be used in suitable cases. Veratrum, although inferior to blood-letting, acts in the same way as a vascular sedative. Chloroform is also of inestimable value, and is applicable to a greater range of cases. Chloral and morphine are also of great utility. The eccentric causes are also to be sought for and removed. Among prophylactic measures, chloral and the bromides, purgation when indicated, and absolute rest are recommended.

In the

DISCUSSION

which followed the reading of this paper, DR. P. C. WILLIAMS spoke strongly in favor of venesection, and he also advised the combination of jaborandi with the chloral.

DR. JOHN MORRIS also believed in the efficacy of blood-letting.

DR. LYNCH was a strong opponent of phlebotomy, and thought that veratrum viride would serve the same purpose.

DR. ARNOLD also opposed venesection, and thought potassium bromide was strongly indicated.

DR. ROBERT T. WILSON exhibited a

TEMPORARY CLAMP,

for use especially in ovariotomy, oöphorectomy, and Tait's operation.

DR. D. W. CATHELL reported a case of

LABOR COMPLICATED BY UTERINE FIBROIDS.

The Session was then adjourned.

FRIDAY, APRIL 30TH—FOURTH DAY.

The Session was opened by the reading, by the Chairman, DR. J. MORRIS, of the

REPORT OF THE COMMITTEE ON MEMOIRS.

Sketches were read of the lives of Drs. Richard McSherry, Edward De Loughery, Edward Schwartze, and Thomas Dougherty, members who had died during the year.

This was followed by the

REPORT OF THE SECTION ON MATERIA MEDICA AND THERAPEUTICS.

DR. RICHARD H. THOMAS, the Chairman, read a paper entitled

THE HOME TREATMENT OF ORDINARY PHTHISIS AS AFFECTED BY THE BACILLUS THEORY.

The author believed that isolation of phthisical patients was useless, for the infection is everywhere—in the dust of the street as well as in the patient's house. He thought the use of disinfectants about the sick-room was advisable, though great results could not be expected from this method. The endeavor to treat phthisis by specific antibacillary remedies, such as arsenic, had failed, but the plan of filling the room with antiseptic vapor, though somewhat difficult of execution in private practice, promised much better results. The hope of destroying the bacillus by this means, however, he regarded as vain. The speaker thought that phthisis was curable in certain cases, but no disease called for so much variety in treatment, and in none was routine, except that of fresh air, good food, and proper exercise, so out of place. As to the relation of the bacillus theory to the therapy of the disease, the author thought that the theory merely enforced what we knew before, and gave greater ground for hope in the ultimate success of our efforts. Its effect upon the profession had been to emphasize the necessity of prophylactic measures, of cleanliness, fresh air, and of hygienic treatment. The paper was discussed by Drs. Lynch, Grundy, and Morris. The next report was that of the

SECTION ON SANITARY SCIENCE.

The first paper, by DR. GEORGE H. ROHÉ, entitled

THE SANITARY RELATIONS OF FOOD,

was, in the absence of the author, read by title. DR. E. G. WATERS then read a paper on

SEWERAGE AND HOUSE DRAINAGE,

in which he drew a most alarming picture of the sanitary condition of Baltimore, with its subsoil saturated with leakage from the privy-vaults and cesspools, and compared the task of removing the filth and preventing its further accumulation to that of cleansing the Augean stables.

Adjourned.

SATURDAY, MAY 1ST—FIFTH DAY.

DR. O. J. COSKERY presented a communication entitled

THREE CASES OF FRACTURE OF THE SKULL,

which formed a part of the report of the Section of Surgery.

Dr. L. F. Morawetz then read a paper entitled

THE MIND IN STATU NASCENTE,

being the report of the Section on Psychology.

This was followed by a paper from the same Section, presented by Dr. John S. Conrad, and entitled

THE STUDY OF INSANITY.

The object of the communication was to show the necessity of including instruction on insanity and mental diseases in the curriculum of medical schools. The speaker said that the managers of public institutions in Maryland were obliged to import physicians from other States to treat the insane.

Dr. Whitfield Winsey read a paper on the

COMPARATIVE MORTALITY OF CONSUMPTION IN THE WHITE AND COLORED RACES,

in which he presented statistics showing the greater liability of the negro to suffer from pulmonary diseases, and urged that the members of this race be taught the necessity of attention to hygiene as a prophylactic measure.

The report of the committee upon the

SUPERVISION OF THE INTERESTS OF THE INSANE

in the State of Maryland was then presented by Dr. G. L. Taneyhill, secretary, in which it was stated that a bill had been drafted, which, after being revised by eminent legal authority, and adopted at a special meeting of the Faculty, had been passed by the Legislature. This bill, which is to go into effect on June 1st of the present year, provides for a

LUNACY COMMISSION

to have supervision over all institutions, public, corporate, and private, in which insane persons are detained. The board is to consist of the Attorney-General and four persons (two, at least, of whom must be physicians, and one of them experienced in the treatment of the insane) appointed by the Governor of the State. The commission is invested with all the functions and powers of law of coroners in the institutions under its control.

Dr. Philip C. Williams offered a series of resolutions complimenting the committee on its work, and thanking the able legal counsel for his valuable services, which had been rendered gratuitously.

Dr. Richard Gundry reported for the committee appointed to memorialize the Legislature on behalf of

A STATE INSTITUTION FOR THE EDUCATION OF IMBECILE AND FEEBLE-MINDED CHILDREN,

that a bill had been drafted, but had failed to pass the second branch of the Legislature. On motion the committee was continued, and Dr. S. J. Foot added to it.

The next report in order was that of the Section on Ophthalmology, Otology, and Laryngology, which was presented by Dr. John N. Mackenzie, the title of whose paper was

THE RELATION OF CERTAIN STATES OF THE ATMOSPHERE TO THE PREVALENCE OF CATARRHAL AFFECTIONS OF THE UPPER AIR-PASSAGES.

The atmospheric conditions were heat, cold, moisture, and air in motion. The author dwelt upon the influence of a changeable climate in the causation of nasal and laryngeal catarrh, and stated that there could be no doubt, in spite of some recently enunciated views to the contrary, that the prevalence of the latter depended in great measure upon the degree of the former. The effect of cold, he asserted, is frequently far from prejudicial, nasal inflammation often being mitigated or dispelled upon the appearance of frost. But excessive heat, on the other hand, may often usher in the catarrhal process, contrary to the popular impression. The association of moisture with heat or cold is especially productive of catarrhal affections of the nose and throat. The sudden passage from a cold or temperate condition to a hot and sultry state of the atmosphere is particularly irritating to the nasal mucous membrane. Under the head of "air of in motion" the author considered draughts, winds, and air-currents in general, as important agents in the determination of catarrhal affections, and concluded that in moist cold or moist warm air in motion are found the chief exciting causes combined. But it is not any one of these factors alone which is responsible for the prevalence of catarrhal affections so much as it is the change from one atmosphere to another.

Dr. Frank Donaldson, Jr., then presented a pneumatic cabinet, and made some remarks on

PNEUMATIC DIFFERENTIATION.

He said it was claimed for the apparatus that it improves nutrition and affects favorably the lesions in phthisical lungs. By it the patient secures the advantages of rarefied air on mountain-tops. He had not found that it tended to produce hemoptysis, but rather the reverse.

Dr. Claude Van Bibber presented a specimen of

MULTILOCULAR OVARIAN CYST.

After some miscellaneous business the

ELECTION OF OFFICERS

was held, with the following result:

President—Dr. G. W. Mittenberger.

Vice-Presidents—Drs. Thomas Opie and Richard Gundry.

Recording Secretary—Dr. G. Lane Taneyhill.

Assistant Secretary—Dr. Robert T. Wilson.

Corresponding Secretary—Dr. T. Barton Brune.

Reporting Secretary—Dr. Richard H. Thomas.

Treasurer—Dr. W. F. A. Kemp.

Executive Committee—Drs. P. C. Williams, John R. Quinan, H. P. C. Wilson, J. Edwin Michael, and James Carey Thomas.

In closing the Session, the President, Dr. Quinan, made some eloquent remarks. Referring to the subject of his annual address, he said the Faculty did not propose to throw any obtacles in the way of any persons or class of persons in the community, but only to resume the rights with which it had been invested by the Legislature in the control of medical practice in the State—for the good of both the profession and the public.

Adjourned.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 6, 1886.

Abraham Jacobi, M.D., President, in the Chair.

DERMATOLOGY DEMONSTRATED WITH THE STEREOPTICON.

The demonstration was made by Dr. H. G. Piffard, chiefly from photographs of living subjects suffering from various skin diseases. Dr. Piffard had made use of this form of demonstration at his lectures at the University Medical College, and had found it to possess advantages over the presentation of photographs for inspection by the students, and even over the exhibition of patients, whom only the students seated near the arena had an opportunity to closely inspect. The diseases illustrated were epithelioma, lupus, eczema, alopecia, favus, generalized melanosis, sarcoma, "barbers' itch," the eruptions of syphilis, of local poisoning, leprosy, elephantiasis, etc.; sections of the nails, of the skin in health and disease, were also exhibited. Some of the photographs were taken by the author of patients while in his office; others were by different artists, and some were presented to him by specialists in this and other cities.

The following proposed amendment to Article VIII., Section 1, of the constitution was read by The Secretary:

The Academy may suspend or expel a Fellow for violation of its regulations, or the commission of any act which unfavorably affects the character of the medical profession or the interests of the Academy.

Adjourned.

SECTION IN PRACTICE OF MEDICINE.

ALFRED L. LOOMIS, M.D., LL.D., CHAIRMAN.

DR. ROBERT J. DEVLIN read a paper (see p. 545) on

DIABETIC COMA.

DR. H. N. HEINEMAN opened the discussion by saying that he would present certain questions which, although they might not always represent the views which he entertained, might be worthy of consideration.

In the larger number of cases diabetics die from visceral complications, and in many of the recorded cases of death ascribed to diabetic coma the autopsies had revealed conditions which rendered the diagnosis very doubtful. When albumen was found in the urine, as well as sugar, the question arose whether or not the coma present, and in which the patient dies, should be called diabetic coma. Again, how much albumen should be allowed in the urine, and still the case be called diabetic coma, could not be determined, except by the examination of a large number of cases.

With regard to *acetone*, it might be present without immediate danger from diabetic coma; he had seen it in cases of pulmonary phthisis, without any evidence of sugar in the urine.

Again, might not the respiratory symptoms ascribed to diabetic coma in some cases be due to fat embolism of the pulmonary vessels?

Diabetes beginning after fifty years of age was very much more favorable than when it began between twenty and thirty, and the duration of the case was very much less than in either of the above classes when it began in children. Coma, therefore, would be most naturally found in young persons, because it occurred most frequently in the severe cases.

The response to the perichloride test was valuable in determining the liability to the occurrence of diabetic coma, but coma did not necessarily follow in cases in which the urine yielded this reaction.

In most cases of diabetic coma the sudden reduction in the quantity of sugar in the urine and the development of symptoms of coma were associated. At the same time, we were in the dark with regard to the exact nature of the mode of death in these cases, as we were with reference to the causation of diabetes, and were in a position very much like that we occupied concerning uræmia. He regarded Dr. Devlin's paper as the most complete article on this subject which had yet appeared.

He would ask Dr. Devlin if it had been determined that the administration of the carbolic group had any marked effect in reducing the quantity of sugar in the urine? and the importance of the question existed in the fact that these drugs produced, of themselves, symptoms analogous to those present in diabetic coma.

DR. DEVLIN said that he had not directed his attention to the last question suggested by Dr. Heineman. He regarded it as an easy thing to get deceived with reference to the frequency of diabetic coma, if reliance was placed upon statistics obtained from the profession at large. With regard to the existence of fat embolism in certain cases, he thought so little was known about this condition that a safe estimate could not be made concerning its influence. With regard to *acetone*, he was not at all certain that its presence had any special significance.

DR. KINNICUTT said that he believed with Dr. Devlin that it was very difficult to accurately determine the percentage of deaths from diabetic coma in diabetes. Many cases of diabetic coma were undoubtedly unrecognized—a striking instance of this kind had come under his notice. A lady, apparently in good health, suddenly developed great restlessness, rapidly followed by drowsiness and coma, death ensuing in twelve hours from the appearance of the first symptoms. Only by an examination of the urine withdrawn from the bladder after death, and the discovery in it of a large amount of sugar, was the probable nature of the attack recognized. The presence of a small amount of albumen in diabetic urine, in the absence of previous symptoms of renal affection, he should not regard as a sufficient basis for regarding the existence of coma of uræmic rather than of diabetic origin. Although the clinical picture of these varieties of coma was quite different, as a rule, nevertheless, there were cases which permitted of a doubtful interpretation. In such cases, the presence or absence of increased arterial tension might be of service in a differentiation. In the vast majority of instances, the former condition obtained in uræmic coma, the reverse in the coma of diabetes. Dr. Kinnicutt was inclined to believe that many factors, acting in varying combinations and degrees of intensity in different cases, were concerned in the production of both diabetic and uræmic coma.

DR. HEINEMAN said he used the term *acetone* as standing for a group of products found in the urine. He agreed with Dr. Kinnicutt that the simple presence of albumen in the urine should not throw the case out of the class of diabetic coma, as the presence of albumen and hyaline casts from time to time did not at all signify that the kidneys were involved.

THE CHAIRMAN said that during the last three years he had had one case each year of diabetic coma, occurring in the hottest weather in July. Whether the temperature had anything to do with the development of the fatal condition or not, he was unable to say. It was a coincidence, at least, which to him was interesting, especially as he had seen only five cases of diabetic coma, and these occurred during the hottest weather in the month of July.

DR. DEVLIN said that he could recall only one reported case which seemed to have any relation to hot weather.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 14, 1886.

JOHN C. PETERS, M.D., PRESIDENT, *pro tem.*

DR. G. C. FREEBORN presented, in behalf of a candidate, a specimen of *colloid carcinoma of the caput coli.*

DR. W. P. NORTHRUP presented, in behalf of a candidate, a specimen of *chronic localized endocarditis.*

DR. W. M. CARPENTER presented, in behalf of a candidate, a specimen of *renal calculus* weighing one hundred and forty grains.

REPORT OF THE COMMITTEE ON MICROSCOPY.

DR. G. C. FREEBORN, from the Committee on Microscopy, reported on the tumors removed from the abdominal wall by Dr. Sims, and presented at the stated meeting of the Society held March 10th. The growths had the gross appearance of little nodules of fat. On microscopical examination they were found to be surrounded by a fibrous capsule to about one-third of their extent. Two of them contained marked hemorrhage, and one contained quite a large mass of sarcomatous new-growth, and extending through the fatty portion were fibrous processes containing new vessels, and the whole was surrounded by sarcomatous tissue. Nerve-fibres were found in three of the nodules, and in one they were completely infiltrated with small round and spindle-shaped cells. The diagnosis was fibro-sarcoma, probably arising from the nerves.

Dr. H. Marion Sims presented a specimen which illustrated

A PECULIAR CONDITION FOUND AT AN OVARIOTOMY.

The woman was sixty-three years of age, who had enjoyed a fair degree of health until within the last five years, when she noticed an enlargement of the abdomen for which she consulted a surgeon, who tapped her and drew off quite a large quantity of fluid; she was also tapped twice afterward, and before Dr. Sims saw her. At the time when Dr. Sims first saw the patient she was anæmic and was losing flesh rapidly, and he decided to give her temporary relief by tapping the abdomen again and then endeavoring to improve her general condition. He drew off six quarts of a thick fluid, but she did not materially improve. The abdomen began to fill again, and he determined to operate at once, notwithstanding her enfeebled condition. As soon as he made the incision into the abdomen he reached what he took to be the sac of the tumor, and, finding it firmly adherent to the abdominal wall, he began to separate it. After separating it for about two inches he came to a sudden termination of this apparent wall of the sac, and, on closer inspection, he found that he had to deal with a broad band about four inches wide, which he continued to loosen from the abdominal wall, and finally pushed it up to one side, when he exposed the real sac. The tumor had very extensive adhesions, and was removed with a great deal of difficulty, also rather profuse hemorrhage, and was found to be a sloughing ovarian tumor.

The broad band was attached to the symphisis pubis and to the bladder, from which Dr. Sims dissected it. At its lower extremity it was quite thick, and as it extended upward it became thinner and thinner until it neared the umbilicus, where it was about as thin as ordinary blotting paper; throughout its whole extent it was not particularly vascular. He was unable to give an opinion concerning its exact nature, and at his request the specimen was referred to the Committee on Microscopy.

The Society then went into executive session.

Correspondence.

THE DRINKING-WATER OF NEW HAVEN, CONN.

To the Editor of The Medical Record.

Sir: In The Record of April 3d I notice an abstract of some criticisms on my investigations into the quality of the drinking-water of New Haven, Conn.

Your editorial affords the first information that Professor Smith, desirous of demonstrating his dexterity in the matter of water-analysis, is urging this superiority by an endeavor to impugn the accuracy of my figures; this aim has sadly marred and mystified his results.

Dr. Smith is, of course, fully aware of the vast difference between *grains per gallon* and *parts per million;* yet, that which is tabulated by me in *grains per gallon* I find placed side by side with his figures in *parts per million,* and *vice versa;* whether or no this change was necessary to produce the great discrepancy claimed by him is immaterial, but I do protest against such a twisting of figures.

Each one of the four analyses I made were carefully verified by a repetition of the work, and, apart from the slight difference which invariably occurs in such cases, the figures given in my report are sufficiently accurate for all practical purposes. I regret to be compelled to differ with Professor Smith, but it does seem to me that the results I arrived at from eight examinations should, to say the least, be as precise as those of the doctor, whose opinion seems to have been formed from a single analysis of the water.

It is an established fact that the quantitative relation between the total solids in the water in different portions of the same supply are subject to the greatest variation; this is also true of the other constituents, and is particularly so in such reservoirs as those from which New Haven obtains her water. Not only is this found in different portions of a pond from which the samples for analysis may be taken, but also in different depths. Dr. Cameron cites a case wherein the amount of solids at the surface were 29 grains to the gallon, and 47.4 grains at some depth; the quantity of chlorine in the first equalled 2.1 grains per gallon, and in the second water from the same source 1.7 grains per gallon. It does not follow, therefore, that because the water analyzed by Dr. Smith was obtained from the same reservoir, it must be of the identical quantitative composition (as far as solids and chlorine are concerned) as were the specimens sent to me.

I estimated the solids in each sample of water in a very careful manner; and when it is remembered that the weighing was done twice in each case, it will be easily seen that any inaccuracy which might have been committed in the first would certainly have been discovered at the second trial. I think, therefore, that the water analyzed by Professor Smith and that sent to me were not from identical localities, as he has claimed.

Less than a grain of chlorine to the gallon will not make itself apparent when we test the water qualitatively (this I always do before making any quantitative analysis). Now, the fact is, that each one of my samples became immediately turbid when the solution of argentic nitrate was added. This indicates an excess of chlorine, which the quantitative test demonstrated to amount to *seven grains to the gallon.* The rest of the examination shows this excess of very small moment, because the water contains no sewage contamination or animal excreta. Other and harmless sources of salt are certainly abundant in such close proximity to salt water as is the impounding reservoir from which New Haven is provided with water, yet Dr. Smith finds less chlorine here than can be found in any other place in Connecticut. This statement should be taken *cum grano salis,* and perhaps the addition of two or three grains would be nearer the mark.

I made the investigation with the object of determining whether or no the water in the reservoirs was at the time in proper sanitary condition. This being the main and all-important feature, it remains for us to see whether I reported correct results to Professor Lindsley. Dr. Smith does not mention this; he contents himself with his attempt to throw doubt upon the accuracy of my figures, knowing nothing of the specimens of water from which they were made, and calls the work of Professor Chittenden to his support, when, in fact, the latter gentleman personally informed me, in conversation a little while ago, that it had been several years since he had given any attention to the chemical condition of the New Haven water. What Professor Chittenden's analyses, made years ago, have to do with the sanitary condition of the water last summer, I do not clearly understand.

In short, this mathematical hair-splitting "has nothing to do with the case." I attached no importance whatever to the large excess of chlorine which I found. It did not arise from or accompany sewage or animal polluting substances of any kind, and, for all I *know* or *care,* may have been a normal constituent of the water, or may have had an entirely foreign origin (as imperfectly washed bottles in which the specimens were forwarded to me). I did not collect the water, nor was I furnished with any information as to how or by whom it was obtained. Of this I am certain, however—there were in each of the four samples *seven grains of chlorine to the gallon.*

I look upon the chemical examination of water for this purpose, unless accompanied with a thorough microscopical investigation, as of little importance. The determination of the solids is at best a "rough one, and

the solid matter does not exactly represent what was originally in solution," while there is a vast difference of opinion as to the proper temperature which should be employed in the operation; some chemists use as low a degree of heat as 140° C., while others are in the habit of heating to 180° C.; this, of course, would produce great diversity in the weight of the solids. There are many other factors which we might urge in explanation of the difference between the quantitative results of two observers, but I do not wish to consume valuable time.

The essential features of the investigation and the facts upon which I based my opinion of the water were: A small amount of *free ammonia* (less than that found by Professor Smith) and a considerable quantity of *albuminoid ammonia.* From a large experience with the sanitary analysis of water (extending over twelve years), I have found that this condition points to the *vegetable* nature of the organic impurities. In this case the microscope demonstrated that I was correct. This most important step in the analysis showed the particular vegetable matters with which the water was contaminated. I therefore stated, in my report to the secretary of the State Board of Health, that although it was a *usable* water, it was "by no means up to the local standard of purity," and might cause severe diarrhœa in summer; while, the connection between such water and malarial diseases being suspected, we could not sanction its employment without proper treatment.

Dr. Smith's analysis shows that the water which he examined was in exactly the same condition. It perhaps originally contained more organic matter than any of the samples sent to me; for if it was not examined in a fresh state, the confervoid growths, etc., which would form very rapidly in warm weather would feed upon the free ammonia, and thus diminish its quantity in a short time, besides other changes that may have taken place.

Professor Smith certainly does not wish to be understood as saying that water which contains *twice* the amount of *free ammonia, three times* the quantity of albuminoid ammonia that should be found in water of *ordinary* purity, besides overwhelming evidence afforded by the microscope of organic impurities, is a water which is beyond suspicion. Yours respectfully,

ARTHUR J. WOLFF, M.D.

HARTFORD, CONN., April 18, 1886.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BARTLETT TRIAL—SCIENTISTS IN A CORNER—MISTAKES ABOUT CUCA—TEN THOUSAND PRESCRIPTIONS—HYDATID CYST OF RECTO-VESICAL POUCH—RHEUMATOID ARTHRITIS NOT A DISEASE—DEATH OF DR. EVORY KENNEDY.

LONDON, April 28, 1886.

MANY of the details of the "Bartlett" trial are probably already known to your readers through the reports which have doubtless appeared in the columns of the American newspapers, whose efficiency in reporting news is well known to me. It would therefore be telling a tale already told to rehearse the story of this famous trial. It has, however, some features of medical interest. One of these is, that it is the first case in which it has been suggested that a murder has been committed by the internal administration of liquid chloroform. In connection with this the old question has been raised of whether a sleeping person can be anæsthetized by the inhalation of chloroform vapor without awakening him. At one stage of the trial it was insinuated that the accused had done this to the prisoner, and then poured chloroform down his throat. An obvious difficulty in the way of the acceptance of this theory was that complete anæsthesia would annul reflex action and prevent deglutition. Every theory offered was, in fact, beset with difficulties, and the whole case so bristled with anomalous features that it is not much to be wondered at that the jury acquitted the widow.

A great deal was said, both in and out of court, about the extraordinary sexual, or rather non-sexual, relations of Mr. and Mrs. Bartlett. They had been married over ten years, but it was alleged that their union had been purely platonic, and that this arrangement had been made between them by the wish of Mr. Bartlett, who had imbibed peculiar notions not only on this, but on many other subjects. On one occasion, indeed, this arrangement had been departed from at the wish of Mrs. Bartlett, who was anxious to have a family, and a still-born child was the result. This story excited much comment and was evidently disbelieved by the judge, who remarked on the finding of certain preventives in the pockets of the deceased. But probably many medical men could recall similar instances which have come under their observation. Dr. King Chambers records one in his work on "Indigestion," though the arrangement was not entered into *ab initio.*

Some of the scientific witnesses did not fare very well in court. The medical man who attended the deceased was very severely handled by the judge. A London physician, Dr. T. H. Green, who was called as a witness, had to confess that he was not aware that it had been believed that chloral hydrate could be converted into chloroform on being taken into the blood and meeting with the alkali of the latter fluid. As Liebreich's original theory has now been refuted by Hammersten, it would have been excusable to have said he did not believe in it, but a hospital physician of standing and a graduate of the much-vaunted London University should surely have known it, if only as a chemical question.

A dental surgeon who was examined was asked about cocaine, a drug which he had applied to the gums of the deceased. He acknowledged that he did not know whether cocaine was a vegetable or mineral drug, and on being asked by the judge whether it was not the active principle of the cocoa-nut, could give no answer. A dental surgeon may be excused from knowing all about cocaine, and a judge may be so still more; but what shall be said of a hospital surgeon who writes on the subject as an authority and simply "puts his foot in it." Such, at least, is the expression which should be justly applied to a writer who muddles up cocoa, the cocoa-nut, and coca, and appends to a description of cocoa the botanical characters of erythroxylon coca. Another writer abuses the *British Medical Journal* for adopting Sir Robert Christison's suggestion to term the plant cuca (instead of coca), and its active principle cucaine. Had the learned baronet's suggestion been generally adopted, I scarcely think the surgeon I am alluding to could have so deeply committed himself. He actually puts down theobromine as an active principle of the erythroxylon coca.

The *Chemist and Druggist* has been holding a symposium of prescriptions. With a view of ascertaining what drugs are prescribed most frequently, it has invited its readers to send prescriptions. Thirteen thousand prescriptions have been sent, and from these the editors have selected ten thousand and analyzed them. With a view of adding interest to the matter, they have offered a prize, for competition among their readers, for the one among them who shall guess most correctly the six drugs most frequently prescribed. The editorial analysis of the ten thousand prescriptions has revealed that the six medicines most frequently prescribed are: Sp. chloroformi, pot. bromid., vin. ipecac., sp. ammon. aromat., quininæ sulph., and sodæ bicarb. The order is that of frequency. The second six most frequently prescribed were found to be: Ammon. carb., liq. ammon. acet., glycerine, syr. aurantii, pot. bicarb., sp. æth. nit. Proprietary articles only amounted to a little over seven hundred out of ten thousand prescriptions. The six principally prescribed proprietary articles were found to be: Vaseline, chloro-

dyne, nepenthe, Fellows' syrup, Benger's liquor pepticus, liquor carbonis detergens. These collectively constituted nearly two-thirds of the proprietary articles dispensed.

At the last meeting of the Pathological Society, Mr. Hurry Fenwick showed a hydatid cyst of the recto-vesical pouch removed from the body of a man about fifty years of age. Only about fifty cases of hydatid tumor in this situation are on record. In this case a hydatid cyst was also found in the liver, and Mr. Fenwick said the most probable explanation of these cases was leakage from a hepatic cyst.

Mr. Arbuthnot Lane brought up again the subject of rheumatoid arthritis. After referring to a previous paper in which he had endeavored to show that Charcot's disease was modified rheumatoid arthritis, he now put forward the opinion that the latter affection is not a disease, but the result of traumatism. He had shown (in previous papers) that the transmission of pressure produced many important changes in the bones and joints. Rheumatoid arthritis was common in man, compared with the lower animals, because he often bore burdens whose weight was transmitted at great mechanical disadvantage, and his joints were more exposed to injury than in the lower animals. In animals which carried or dragged heavy burdens (*e.g.*, horses), pressure changes were often seen. This was less frequently the case with animals, portions of whose bodies are exposed to violent strain in pursuing their prey.

Evory Kennedy died last week in London. This once famous obstetrician retired from practice many years ago, and, living in a western suburb of London in comparative retirement, had almost lost touch with the present generation. To many London doctors, in fact, the announcement of his death will be the first intimation that he ever lived among them. Yet, perhaps no name was more familiar to the obstetricians of the last generation. Dr. Kennedy graduated at the University of Edinburgh as long ago as 1827, and was therefore an octogenarian at the time of his death. He was one of the early workers in the field of uterine auscultation, and discovered the funic, or, as he termed it, placental, souffle in 1830. In 1834 he published a treatise entitled "Obstetric Auscultation, or Means of Detecting Life or Death in the Fœtus before Birth." He also wrote on vesico-vaginal fistula fifty-three years ago, and on inflammatory affections of the uterus thirty-nine years ago. He was president of the King's and Queen's College of Physicians of Ireland in 1854–55. He had previously held the important post of master of the Rotunda Lying-in Hospital. In later years, when about to retire from practice in Dublin, he took a very active part in advocating some important alterations in the sanitary arrangements of the Rotunda.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 2 to May 8, 1886.

TILTON, HENRY A., Major and Surgeon. From Department of the East to Department of California. S. O. 106, A. G. O., May 6, 1886.

BROOKE, JOHN, Major and Surgeon. From Department of California to Department of the East. S. O. 106, A. G. O., May 6, 1886.

COMEGYS, EDWARD T., Captain and Assistant Surgeon. From Department of the Missouri to Department of the East. S. O. 106, A. G. O., May 6, 1886.

APPEL, AARON H., Captain and Assistant Surgeon. From Department of the East to Department of the Missouri. S. O. 106, A. G. O., May 6, 1886.

TOWN, FRANCIS L., Major and Surgeon. Granted leave of absence for eight months, with permission to go beyond sea, to take effect when his services can be spared by his Department Commander. S. O. 101, A. G. O., April 30, 1886.

WILSON, WILLIAM J., Captain and Assistant Surgeon. Died May 2, 1886, at Plattsburg Barracks, N. Y.

WILSON, GEORGE F., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Shaw, Mon. Terr. S. O. 37, Department of Dakota, April 26, 1886.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Relieved from duty at Presidio, of San Francisco, Cal., and ordered for duty as Post Surgeon, Fort Halleck, Nev. S. O. 28, Department of California, April 26, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 8, 1886.

KITE, ISAAC, Assistant Surgeon. Ordered to Naval Hospital, Brooklyn.

SIMON, W. J., Passed Assistant Surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

LIPPINCOTT, GEORGE C., Passed Assistant Surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 8, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
May 8, 1886.....	0	3	29	6	23	73	7	0
Deaths.								
May 8, 1886.....	0	1	10	6	3	32	1	0

THE LATE DR. AUSTIN FLINT.—At the meeting of the Medical Board of Charity Hospital, held May 1, 1886, the following preamble and resolutions were unanimously adopted, and it was voted that copies be sent to THE MEDICAL RECORD and *The New York Medical Journal* for publication:

Whereas, It has pleased God to remove from his field of labor our distinguished colleague, the late Professor Austin Flint, M.D., LL.D., whose lofty conception of the functions of a physician in his relation to his patients, and whose noble attributes as a man are enshrined in our memory; and,

Whereas, His sudden death, when yet active and in the zenith of his fame as physician, teacher, and zealous worker in the field of scientific research, and who in death is remembered and ennobled by the record of his qualities and deeds as the acknowledged representative of all that is best in the study and practice of medical science and art; therefore be it

Resolved, That the Board of Physicians and Surgeons of the New York Charity Hospital herewith express its deep sense of loss in common with the medical profession.

Resolved, That its members respectfully tender its sympathies to the family of the deceased.

Resolved, That these resolutions be entered upon the secretary's minutes, on a page designed for the purpose, and that a copy be sent to the family of the late Professor Flint, and to the Honorable Board of Commissioners of Public Charities and Correction.

THOMAS H. ALLEN,
F. R. STURGIS,
Committee.

CHARLES W. ALLEN,
Sec. Med. Board.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 21 NEW YORK, MAY 22, 1886 Whole No. 811

Original Articles.

ANTIPYRINE.

BY J. H. FRANKENBERG, M.D.,

LATE HOUSE-PHYSICIAN TO BELLEVUE HOSPITAL; ATTENDING PHYSICIAN TO MOUNT SINAI DISPENSARY, NEW YORK.

ONE of the most recent contributions to our materia medica by synthetic chemistry is a derivative of chinoline, and has been very appropriately denominated antipyrine. It was discovered by Knorr, of Erlangen, and physiologically experimented with by Filehne, of Berlin.

The drug has had a very wide field of trial, not only in Germany, and all over the European continent, but also throughout this country. A very large number of reports of cases are on record. They are almost unanimous in their verdict. Antipyrine is an antifebrile remedy which will cope with, and in our judgment surpass, any other antipyretic means that we possess at the present day. It is a drug which answers nearly all the purposes and requirements that could be desired of an antipyretic.

It is applicable to almost all cases with febrile movement; it acts with safety and certainty; it is a most powerful agent in this respect, and its effects can be graduated approximately, and prognosticated according to the amount administered. The reduction of the temperature is lasting, and accompanied by few or really no objectionable features.

It first made its appearance in June, 1884. It is a white crystalline powder, of a slightly yellowish tinge, readily soluble in alcohol and water; two parts of antipyrine will dissolve in one part of hot water, and very little of the salt will be deposited on cooling. It is slightly bitter in taste, and can readily be taken in solution disguised by a drop of the oil of peppermint or other aromatic, or it may be taken in wafers.

On taking fifteen grains in health, there is no effect shown except that the temperature may be reduced 0.3 or 0.4 of a degree, and a feeling of bodily warmth experienced. If thirty grains are taken, the temperature is reduced about one-half degree; the pulse-rate is not altered, although its character is slightly changed; the arterial tension is elevated, and the pulse-beat becomes more abrupt and sharp. The body becomes bedewed with a light perspiration at the end of thirty to forty-five minutes, and is followed by a feeling of apathy and languidness.

On taking forty-five grains, the same symptoms persist to a slightly more exaggerated degree. The feeling of *ennui* becomes more marked, although drowsiness does not usually prevail. The respiration is not at all affected, and the temperature may sink from 0.6 to 0.8 of a degree.

In poisonous doses, given to animals, Demme, of Berne, found that it acts on the nervous system by selection, at first producing general tetanic spasms, and finally death by cardiac paralysis.

The drug is eliminated through the skin and urine chiefly. It makes its appearance in the urine very soon after administration, and reaches its maximum in the course of one or two hours, and gradually disappears after twelve hours, which seems to indicate, as it happens, the length of time during which it exerts its physiological effects. Its presence in the urine is recognized by the dark-red color produced by the addition of a solution of the chloride of iron. It may also be detected by adding nitric acid to the urine, which turns the solution to an emerald-green color.

Now, passing to its effects in disease, we find that if thirty grains be given to a patient with febrile movement, in about twenty minutes the skin becomes somewhat reddened and moist, the superficial veins present a congested appearance, and a profuse perspiration is set up. In one case that was weighed, the loss of bodily weight amounted to over one and a quarter pound in the course of two hours after the first administration of thirty grains. Accompanying this derivation of the blood from the interior to the circumference there is a corresponding reduction of the internal temperature. In several cases we recall a discrepancy of over 2° F. between the rectal and axillary temperature.

The rapidity of the pulse is diminished during the administration of antipyrine, but comparatively less than the temperature. The ratio existing between the temperature and pulse before and after the exhibition of the drug is not the same. It has a more decided effect on reducing the temperature than on the pulse. The pulse-beat is more tense and less compressible. If given to a patient with a dicrotic pulse, the dicrotism, that is, the secondary wave, disappears entirely, or nearly so. This we have verified with the sphygmograph in a number of cases of typhoid fever.

The return of the temperature, just as its disappearance, is slow and gradual in most cases, covering from three to six hours. This slow accession to temperature in most patients accounts for the absence of chills or chilly sensations, which take place regularly before the recurrence of temperature when kairin has been administered.

As for its objectionable traits, we find that particularly enfeebled women and children will at times complain of nausea, and even vomiting will ensue. Marked somnolency has occurred after using the drug in a few instances.

To avoid the possibility of upsetting the stomach we have tried, as others, the hypodermatic use of the remedy. As it is so readily soluble in hot water, a very concentrated solution can be made. We have found these advantages in using the drug hypodermatically: It requires only one-half to one-third the amount of antipyrine; it avoids all gastric disturbances, and acts more rapidly and more certainly. We have used it repeatedly, and have not observed an abscess or severe inflammation follow. It does not seem to be irritating, as the patients do not particularly complain when the drug is injected. This mode of administration is not to be enjoined in either very delicate children or very much debilitated persons, as the reduction of temperature may be too sudden and too great, and symptoms of collapse may possibly supervene.

Last winter we made a series of experiments on the urine of a patient taking antipyrine, and found that the amount of nitrogen, which is an exponent of the amount of urea, was considerably diminished. And contrasting our results with those of Sassetzky, who made similar experiments on the urine of patients taking quinine, salicylic acid, and cold baths, we concluded that the elimination of nitrogen through the urine was most reduced when antipyrine was exhibited. This proves *à priori* that antipyrine has a greater influence upon reducing the chemico-vital changes than either of the other antipyretic measures.

The experiment consisted of giving the patient, who was in the third week of typhoid fever, daily, the same amount of milk and beef-tea. The experiment lasted seven consecutive days. On the first day the patient received seventy-five grains of antipyrine, on the fourth day ninety grains, and on the fifth and sixth days seventy-five grains daily; on the other days no antipyretic measures were adopted.

AMOUNT OF NITROGEN ELIMINATED AFTER USE OF ANTIPYRINE.

Day of trial.....	1	2	3	4	5	6	7
Amount of antipyrine	75 grs.	none.	none.	90 grs.	75 grs.	75 grs.	none.
Average temperature	101	103	102.5	100	101.5	101	102.6
Cubic centimetres nitrogen eliminated.	17.51	22.81	20.23	12.02	16.82	16.45	23.46

As the table shows, during those days on which antipyrine was administered a much less amount of nitrogen was eliminated from the body, an average of 6½ c.c. of nitrogen, which denotes a saving of nine ounces of muscle. The amount of nitrogen was determined by the use of the hypochloride of soda. These experiments correspond with those made by Müller (*Centralblatt für klin. Med.*, 1884, p. 36).

The drug has been employed, either by ourselves or fellow-colleagues who have accurately reported their results, in about one hundred cases. It has been exhibited in cases of typhoid fever, in acute lobar and bronchopneumonia, scarlatina, peritonitis, meningitis, puerperal fever, acute articular rheumatism, erysipelas, intermittent fever, acute and chronic phthisis, and in cases of insolation.

Among these patients some had very high temperatures, as high as 108.6°, but the average ranged between 102° and 105°. In all these cases the temperature was safely reduced at least two degrees, and in some six to seven degrees, on the average from four to five degrees. In the first score of cases that the drug was used, we tried the tolerance of the patient by beginning with fifteen grains, which we still continue to do in weak individuals. If the remedy agrees with the patient, then thirty grains are administered, and continued until ninety to one hundred and twenty grains have been consumed in the course of the day, if the temperature calls for it.

We have found in this drug, employed in this manner, a sure and most powerful means of reducing temperature, and we have succeeded in the great majority of cases so doing either to the normal standard, or nearly so, when on those days during which no antifebrile measures had been adopted the temperature oscillated between 103° and 105°.

The effect of the antipyrine varies largely with the severity of the illness. If the disease be one of moderate intensity, the time elapsing between the minimum and the maximum temperatures, after its administration, varies from three to six hours. In severe cases, with obstinate temperatures, we have found only a short intermission, or only a remission in the temperature.

As recommended by Filehne, the remedy was given in thirty-grain doses, repeated every hour, until three or four such doses had been taken. This plan was followed in quite a number of cases, more especially in cases of typhoid fever and pneumonia with temperatures over 104°; a complete or almost complete subsidence of fever was observed for ten to fifteen hours in many cases, and in individual instances for a much longer period of time. The first impression would be that this mode of dispensing the drug was highly advantageous, still the end justifies the means. In one case the temperature sunk from 103.5° to 96°, in two other cases of typhoid from 104° to 95°, and in one case of pneumonia from 103.5° to 95.6°. Notwithstanding these marked depreciations in temperature in a comparatively short time, no symptoms of collapse were manifested. The pulse remained good and the mind clear, and no great discomfort was experienced. In but one case of advanced phthisis do we recall the occurrence of cyanosis while the temperature was subsiding, and even here it was but transient; no other alarming symptoms were evinced.

The method of administering the drug, just detailed, we have found too bold even in hospital practice, where the patient is constantly under the eye of the physician or trained nurse; hence much less can such dosage be advocated in private practice.

It has consequently been our custom to make each individual case a study, and apportion the drug accordingly. In cases of typhoid fever or acute lobar pneumonia occurring in young healthy subjects, thirty grains were given, and the effects carefully observed. If the temperature was coming down rapidly, the drug was either withheld or only fifteen grains were given at the end of an hour. If, however, only a slight impression was made on the temperature, then thirty grains were again given, and the observation continued. Sometimes one dose would suffice, at other times seventy-five grains would have to be given in the course of three or four hours. In still other cases the same amount would be distributed over five or six hours. Though we have observed that when the doses were given at too long intervals a complete apyrexia would not occur, still an adequate reduction would take place to render the patient more comfortable.

From experience we know that some patients bear temperature much better than others, irrespective of the general physical conditions. Some patients with a temperature of 104° will feel quite at ease, the mind will be clear, and the patient will complain of no subjective symptoms; whereas in others a temperature of 102° will render the patient very restless, hot, and even delirious. This we have found very difficult to account for, and can only ascribe it to individual idiosyncrasies.

Now, in the first class of cases a complete apyrexia is hardly necessary, while in the second it is exceedingly desirable. Hence the administration of the drug as to dose and time must vary very much with the peculiarities of the case and the indications at hand.

If the temperature is readily amenable to the remedy, either smaller doses must be given, or at wider intervals. Or, if the patient be a child, or adult enfeebled by long continuance of disease, the same careful discretion must be exercised in its application.

To substantiate the rapidity with which it reduces temperature, and the duration of its effects, the following two charts will be appended. They are of two cases of acute lobar pneumonia, to each of whom one dose of thirty grains of antipyrine was experimentally administered.

Time.	Temp.	Pulse.	Resp.	Time.	Temp.	Pulse.	Resp.
8 A.M.....	104.2	104	29	9 A.M.....	104.7	122	32
9 A.M.....	100.7	84	28	10 A.M.....	100.3	98	30
10 A.M.....	100.2	86	28	11 A.M.....	98.9	92	28
11 A.M.....	99 5	82	30	12 M.....	98.2	88	28
12 M.....	99.3	80	27	1 P.M.....	98.8	90	28
1 P.M.....	98.6	82	28	2 P.M.....	99.3	92	30
2 P.M.....	98.8	88	28	3 P.M.....	100.2	94	28
3 P.M.....	100.2	90	28	4 P.M.....	101.3	96	30
4 P.M.....	101.1	94	30	5 P.M.....	102.6	98	30
6 P.M.....	102.8	102	31	6 P.M.....	103.5	106	32

It is manifest, after perusing these two charts, that even one dose of antipyrine will reduce the temperature to normal, or nearly so; but, as can be observed, its effect is not very lasting. The pulse-rate was correspondingly lowered with the temperature.

At 8 A.M., with a temperature of 104.2, and a pulse of 104, thirty grains of antipyrine were administered; in one hour the temperature had fallen 3½°, and the pulse had diminished in frequency in about the same ratio. By one o'clock in the afternoon the temperature was normal, that is, five hours after the drug had been given. The temperature then gradually rose, and by six o'clock was 102.4. In the other case, which, by the way, was a woman—the first a man—with a temperature of 104.7,

and a pulse of 110, the same dose was given hypodermatically. In one hour the temperature had sunk to 100, that is, 4.7°, and reached its lowest point at twelve, namely, three hours after its administration. The temperature now gradually and slowly rose to 103.5 by six o'clock.

These two cases illustrate the power the drug possesses even in single doses. They further show how much more rapidly the drug acts when given hypodermatically, though the second case was a female, and perhaps more susceptible to its action.

In our experience a tolerance of the drug has not been observed. In no case has a loss of response to the administration of the remedy been witnessed. But, on the other hand, it is worthy of notice, as has heretofore been mentioned, that some patients respond very markedly on getting the first dose, hence calling for some discretion at the outset of its use.

A most remarkable phenomenon occurs in some cases —the appearance of an eruption. We have noticed it in seven cases—six typhoids and one acute phthisis—three males and four females.

This eruption cannot be looked upon as a result of a prolonged use, or of too liberal employment of the drug, as it did not make its appearance in those cases that received the largest quantities. There seems to be a peculiar disposition at play, just as occurs much less frequently after the use of quinine, as we all know, in which instances the eruption manifests itself unexpectedly, irrespective of the amount used. Nor can we regard it as an expression of intoxication, or of a condition in which the system is, so to speak, saturated with the drug, as in the case of the bromides and iodides; but it can most readily be accounted for by regarding it as a reaction of the nervous system in certain particularly susceptible individuals. That it is not a manifestation of the toxic effects of the remedy is clearly demonstrated by the absence of disturbances of any of the viscera.

The eruption was seen in one case to whom five drachms had been given, in the course of two weeks, in fifteen-grain doses; in the other case, from one to three ounces had been administered in about the same period of time.

The eruption makes its appearance without any premonitory symptoms. There is no special rise of temperature, no chill, no vomiting, nor any mental disturbances. Furthermore, we have noticed it accidentally in two cases, in which the subjective sensations remained unaltered, and the eruption existed without the patient's knowledge. Sometimes, however, it is accompanied with an intense pruritus.

The eruption occurs principally on the extensor surfaces of the limbs, less on the flexor; it is also seen on the back, and, perhaps, somewhat less abundantly on the chest and abdomen. The neck is seldom covered with the eruption; the face showed in one case a few spots; the mucous membranes were always exempt. It consists of small, reddish, irregularly round spots, resembling, at least in those cases in which the eruption is decidedly pronounced, the eruption of measles. The spots are slightly raised above the surrounding surface, and are about the size of a lentil, or, perhaps, a trifle larger. They are confluent, and the patches formed, being separated by areas of sound skin, present the appearance of a rose marbling, as one writer describes it. On pressure the spots disappear, but leave a light-brown pigmentation.

The eruption disappeared in all cases after eight days, the color becoming more intense for five days, and then gradually fading, notwithstanding the persistence of the use of the drug. In two cases a slight desquamation of the skin took place. A number of writers on antipyrine have described the eruption as resembling that of urticaria. We have failed to have any such cases fall under our observation.

In discussing this comparatively new remedy we have thought that its great advantages as an antipyretic would be more clearly and firmly impressed on the minds of our readers if we should exemplify a few cases and illustrate by charts the effects of the drug in different diseases.

The following chart is of a case of acute lobar pneumonia, occurring in a merchant, aged twenty-eight, of good general physique. He was seen on the second day of his illness, with positive physical and rational signs of an acute lobar pneumonia.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
January 6th.	9 A.M.	101.5	110	30	
"	12 M.	101.5	...	..	
"	2 P.M.	100.4	...	..	
"	4 P.M.	100	...	..	
"	6 P.M.	99.7	...	..	
"	8 P.M.	101	108	29	
"	10 P.M.	100	110	29	
"	12 M.	101.7	...	..	
January 7th.	2 A.M.	102.9	...	..	
"	4 A.M.	102	...	..	
"	6 A.M.	102.7	...	..	
"	8 A.M.	102.9	...	..	
"	10 A.M.	102.7	116	31	
"	12 M.	104.7	...	..	
"	2 P.M.	104	...	..	
"	4 P.M.	107.6	116	38	30 grs. antip., hypod.
"	5 P.M.	102.3	104	30	
"	6 P.M.	102.5	104	30	15 grs. antipyrine.
"	7 P.M.	103.6	112	..	15 grs. antipyrine.
"	8 P.M.	104.5	120	34	
"	9 P.M.	104.5	124	..	30 grs. antip., hypod.
"	10 P.M.	102	110	..	
"	11 P.M.	100.7	108	..	
"	12 M.	101	...	31	
January 8th.	1 P.M.	100.7	108	..	
"	2 P.M.	101.7	...	..	
"	3 P.M.	101	...	..	
"	4 P.M.	100.2	106	..	
"	5 P.M.	98.8	100	..	
"	6 P.M.	99.3	98	..	
"	7 P.M.	100	102	..	
"	8 P.M.	100.4	...	..	
"	10 P.M.	102.9	112	..	
"	12 M.	102.8	...	30	
"	2 P.M.	102.6	107	..	
"	4 P.M.	101.7			

On January 6th, at 9 A.M., the patient was seen for the first time. The temperature was 101½°, pulse 110 and of fair quality. Two grains of ammonium carbonate and one-half ounce of whiskey were ordered every three hours. On the 7th, at 10 A.M., his temperature had risen to 102½°, with pulse of 116, and still of about the same character. The same drugs were continued, without resorting to any antipyretic measures. In the afternoon of the same day his temperature had risen very rapidly to 106½°, the pneumonic process had made great strides, so that the whole of the lower and middle lobes of the right lung were completely consolidated.

It was not until this high degree of febrile movement was reached that recourse was had to antifebrile drugs. Thirty grains of antipyrine were administered hypodermatically. After the lapse of one hour the temperature had sunk over 4°, accompanied by no other discomfort than a moderately profuse perspiration over the whole of the body. At 6 P.M. the temperature began to rise again, and fifteen grains were exhibited by mouth. Notwithstanding the last dose, the temperature kept on rising, and another allowance of fifteen grains was given at 7 P.M., but this also was of no avail, and by nine o'clock the temperature had risen to 104½°. Now thirty grains were again administered hypodermatically, so that ninety grains had been consumed in the course of five hours. It was after receiving this last potion that a rapid lowering of the temperature took place. At 10 P.M. it was 102°, and an hour later 100.7°. During the subsequent four hours the temperature oscillated, and then sunk steadily until five o'clock the next morning, when it was 98⅘°; that is to say, the normal temperature was reached thirteen hours after the first dose, and eight hours after the last effectual dose had been disposed of.

The subsequent rise of temperature was at first slow,

and then more rapid, but no antipyrine was further required in this case.

The antipyrine had here not only removed the fever, but it had brought about an apyrexia of very considerable duration.

Resolution took place on the sixth day. In this case the temperature might have been more speedily reduced to the normal, had the second and third doses of antipyrine been larger, and had they sooner followed the first.

Hence we see that we were able to keep the temperature twelve hours below 102°, from 10 P.M. on the seventh until 10 A.M. on the eighth, and six hours below 100½°, from 4 A.M. until 10 A.M. on the same day. The pulse-rate corresponded very closely with the oscillations of the temperature, and was very slightly influenced by the antipyrine. The same may be said of the respirations.

The next chart is taken from a case of typhoid fever, occurring in a man aged thirty-seven. It was in the middle of the third week when the temperature reached its highest point.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
Sept. 6th.	10 A.M.	104.4	128	25	Sponge-bath.
"	12 M.	103.1	124	..	Sponge-bath.
"	2 P.M.	102.2	118	..	Sponge-bath.
"	4 P.M.	104.2	122	..	Sponge-bath.
"	8 P.M.	104.9	134	..	Sponge-bath.
"	10 P.M.	104	136	..	15 grs. quinine.
Sept. 7th.	2 A.M.	103.5	130	..	15 grs. quinine.
"	6 A.M.	102.8	124	..	
"	10 A.M.	103.1	124	..	
"	12 M.	105.2	130	30	
"	2 P.M.	105.8	132	31	
"	3 P.M.	105.8	134	32	30 grs. antipyrine.
"	4 P.M.	104.5	128	..	30 grs. antipyrine.
"	5 P.M.	101.7	120	..	15 grs. antipyrine.
"	6 P.M.	99.7	104	..	
"	7 P.M.	99.5	100	..	
"	8 P.M.	99.5	92	24	
"	9 P.M.	99.7	96	..	
"	10 P.M.	99.1	90	..	
"	11 P.M.	99.3	88	..	
"	12 M.	100.2	94	..	
Sept. 8th.	2 A.M.	100	104	..	
"	4 A.M.	99.5	108	..	
"	6 A.M.	100	116	..	
"	8 A.M.	101.5	120	..	
"	10 A.M.	102.8	124	..	
"	12 M.	105	140	..	
"	2 P.M.	105.8	140	..	
"	4 P.M.	106	144	..	
"	8 P.M.	105.8	146	36	
"	12 M.	104.7	138	..	
Sept. 9th.	4 A.M.	104	134	..	
"	6 A.M.	104.5	134	..	
"	8 A.M.	103.6	128	30	
"	9 A.M.	104	136	..	30 grs. antipyrine
"	10 A.M.	102	118	..	30 grs. antipyrine.
"	11 A.M.	99.3	116	..	15 grs. antipyrine.
"	12 M.	97.7	102	..	
"	1 P.M.	97.5	98	..	
"	2 P.M.	97	96	22	
"	3 P.M.	97.5	92	..	
"	4 P.M.	98.7	92	..	
"	5 P.M.	101	104	..	
"	6 P.M.	102.2	120	..	
"	7 P.M.	102.6	120	..	
"	8 P.M.	102.8	116	..	
"	9 P.M.	103	120	..	
"	10 P.M.	103.1	126	..	
"	12 M.	103.8	128	..	
Sept. 10th.	2 A.M.	104.2	132	29	
"	6 A.M.	103.8	106	..	
"	10 A.M.	102.8	110	..	
"	12 M.	104.3	120	..	15 grs. antipyrine.[1]
"	2 P.M.	103.6	124	..	15 grs. antipyrine.[2]
"	4 P.M.	103.6	108	..	
"	6 P.M.	102.8	100	24	
"	8 P.M.	100	98	..	
"	10 P.M.	98.7	94	..	

On September 7th, at three o'clock in the afternoon, when the temperature was 105.8°, the first dose of thirty grains of antipyrine was given, after one hour thirty grains more were given, the temperature having sunk to 104.5° At five o'clock fifteen grains were further administered, the temperature at this hour having been reduced to 101.7°. The patient's body was bedewed with a profuse sweat, otherwise he was feeling quite comfortable. At six o'clock, three hours after the administration of the first dose, his temperature was 99.7°, having sunk over six degrees. It oscillated between this point and 100° until the following morning at eight o'clock.

With the exception of a very marked perspiration, which took place from 4.30 until 5.30, P.M., no secondary effects of the drug were observed. At the time of giving the first allowance of antipyrine the patient was mildly delirious; this delirium was entirely dissipated after the temperature had been reduced to 100°, and thereupon the patient sunk into a quiet sleep.

As will be observed by the above table, the temperature did not reach its former degree of elevation until the lapse of twenty-three hours. The pulse and respirations corresponded very closely with the elevations and depressions of the temperature.

At nine o'clock in the morning, September 9th, the patient again became delirious. Twice, thirty, and once, fifteen, grains of antipyrine were administered at hourly intervals, as on the previous occasion. The temperature at the time of giving the first dose was 104°; in one hour it had sunk to 102°, in two hours to 99.3°, and in five hours to 97°, that is, seven degrees in five hours. As before, there was a gradual disappearance of the delirium as the temperature reached the normal, and there occurred nothing further than a moderately abundant perspiration, lasting for about two hours, and a tendency to sleep, with an indifference as to what was transpiring about the patient. The pulse-rate had been reduced from 132° to 92° per minute, and the respiration rose and sunk with the temperature and pulse.

There occurred no dizziness, no buzzing in the ears, no vomiting, no chill, nor any other untoward or annoying symptom. The accession to temperature was much more rapid in the second than in the first trial, but unaccompanied by any chill or chilly sensations. The original temperature was again arrived at after the lapse of seventeen hours. On the following day a third trial was made, with smaller doses of antipyrine. At twelve o'clock, when the temperature was 104.3°, fifteen grains were given, and two hours later fifteen grains more added. The temperature gradually sunk until a complete apyrexia was established by ten o'clock in the evening, after fifteen hours. Thirty grains of antipyrine were required to reduce the temperature five and one-half degrees in ten hours. The time elapsing until the minimum point of temperature was reached was greater than in the previous trials, and furthermore, the temperature reached its former point of elevation by two o'clock of the same afternoon. This demonstrates that although smaller doses will bring about an entire emancipation from temperature, their effects are not sufficiently lasting.

By way of contrast we made use of sponge-baths and quinine in this case. On the first day, when it was deemed necessary to resort to antipyretic measures, it was found that a sponge-bath had to be given every two hours, for about twenty minutes, to keep the temperature below 105°, and even with this frequent reiteration of the bath, the temperature could not be brought lower than 102°. Half alcohol and half water, at a temperature of 70°, was used in sponging the patient.

The baths were abandoned because of the enervation and exhaustion which followed their repeated use. Quinine was now used in fifteen-grain doses, given every four hours. Two doses were exhibited, one at 10 P.M. and one at 2 A.M. Four hours after the first dose the temperature had sunk one half-degree, and four hours after the second it had been reduced seven-tenths of a degree more, that is, thirty grains of quinine had depressed the temperature 1.2° degree in eight hours. The temperature then rapidly rose beyond its former degree of elevation.

From 2 P.M., September 8th, until the following morning, at nine o'clock, no antipyrine was given, although in the natural course of events the temperature called for it.

The following table is from a case of scarlatina, with diphtheritic exudation on the tonsils and posterior wall of the pharynx.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
Feb. 12th.	8 P.M.	104.5	132	29	15 grs. salicyl. acid.
"	10 P.M.	102.9	...	..	15 grs. salicyl. acid.
"	12 M.	102.2	...	..	
Feb. 13th.	2 A.M.	102.6	130	..	
"	4 A.M.	102.2	...	..	
"	6 A.M.	102.9	...	..	
"	8 A.M.	102.7	...	..	
"	10 A.M.	102.9	...	..	
"	12 M.	104.7	136	..	
"	1 P.M.	104.4	...	..	
"	2 P.M.	104	134	..	
"	3 P.M.	104	...	..	
"	4 P.M.	104.1	137	28	15 grs. antipyrine.
"	5 P.M.	102	124	..	30 grs. antipyrine.
"	6 P.M.	101.1	108	..	15 grs. antipyrine.
"	7 P.M.	99.5	112	..	
"	8 P.M.	99.5	116	..	
"	9 P.M.	99.1	100	..	
"	10 P.M.	98.8	102	..	
"	11 P.M.	98.8	...	..	
"	12 M.	98.2	...	..	
Feb. 14th.	1 A.M.	98.6	96	..	
"	2 A.M.	98.6	...	..	
"	3 A.M.	98.6	...	..	
"	4 A.M.	99.1	94	..	
"	5 A.M.	98.6	...	..	
"	6 A.M.	99.5	...	..	
"	7 A.M.	99.5	92	..	
"	8 A.M.	99.5	92	..	
"	9 A.M.	99.1	...	..	
"	10 A.M.	99.4	...	..	
"	11 A.M.	99.6	...	..	
"	12 M.	100.2	...	26	
"	1 P.M.	100	...	26	
"	2 P.M.	99.6	...	..	
"	3 P.M.	100.4	...	..	
"	4 P.M.	100.7	...	..	
"	6 P.M.	101.5	...	..	
"	8 P.M.	101.3	...	..	
"	10 P.M.	101.5	108	..	
"	12 M.	101.3	...	..	
Feb. 15th.	2 A.M.	101.3	...	..	
"	4 A.M.	101.8	...	..	
"	6 A.M.	102.4	...	..	
"	8 A.M.	101.8	...	..	
"	10 A.M.	102.6	120	..	
"	12 M.	102.9	...	..	
"	2 P.M.	102.9	...	..	
"	4 P.M.	103.5	128	31	15 grs. antipyrine.
"	6 P.M.	103.5	132	..	15 grs. antipyrine.
"	8 P.M.	102.8	132	..	
"	10 P.M.	101.6	122	..	
"	12 M.	100.4	112	..	
Feb. 16th.	2 A.M.	99.7	100	..	
"	4 A.M.	98.8	106	..	
"	6 A.M.	98.4	94	..	

It was in a girl, thirteen and one-half years of age, who up to the present time had enjoyed good health. She was seen on the third day of her illness, when the diagnosis was still undecided. She complained of general malaise and uneasiness, and some pain on swallowing. The conjunctivæ were congested, and there was a slight coryza, but no eruption. She had had on the same day a decidedly marked chill. At the time of paying her a visit, which was at eight o'clock in the evening of February 12th, the temperature was 104.5°, and pulse 132, rather small and feeble. Half an ounce of whiskey and five minims of the tincture of digitalis were ordered every three hours, and thirty grains of salicylic acid in two doses at hourly intervals. The temperature gradually sunk to 102.2° by the next morning at four o'clock, when it again rose, and oscillated between 104° and 104.5° until four o'clock in the afternoon of the 13th. Now fifteen grains of antipyrine were given, an hour later thirty grains more, and at six o'clock fifteen grains more were administered. At half-past five o'clock vomiting ensued, owing in all probability to the fact that the inhalation of slaked lime with carbolic acid was begun. The fever rapidly disappeared, and by twelve o'clock at night the temperature was 98.2°, so that a reduction of almost six degrees had taken place in the course of eight hours. The patient felt much easier, and expressed a desire for sleep. With the exception of the vomiting at 5.30, and a slight perspiration at seven o'clock, no disagreeable symptoms were manifested. The return of fever was very gradual indeed, the temperature ranged between 98.2° and 100.2° from twelve o'clock at midnight until the next noon. It did not rise to 103.5° until forty-eight hours had elapsed. There was no chill or occurrence of cyanosis while the remedy was exerting its influence. The pulse rose in frequency at first from 108 to 124, and then gradually sunk with the temperature. The character of the pulse changed from a rather feeble to a tolerably strong and full one, which fact may, however, have been not at all ascribable to the antipyrine, but to the whiskey and digitalis. We have been in the habit, in a routine way, unless contraindicated, to use these two drugs—whiskey and digitalis—in conjunction with the antipyrine; not that the heart-action demands them ordinarily, but we believe they facilitate the action of the drug, or rather corroborate its physiological effects, as they both will reduce the temperature to a greater or less extent.

The salicylic acid, which was used at the inception of the treatment, had to be abandoned, because the patient's stomach rebelled. Two more trials with antipyrine had to be made in this case, which are not recorded in the table, before convalescence was entered upon.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
July 21st.	4 P.M.	107.8	134	36	In sponge-bath.
"	5 P.M.	108.4	139	36	30 grs. antip., hypod.
"	5.30 P.M.	108.2	135	36	
"	6 P.M.	107.5	131	37	45 grs. antip., hypod.
"	6.30 P.M.	105.9	124	35	
"	7 P.M.	103.8	126	32	15 grs. antip., hypod.
"	7.30 P.M.	102.1	122	32	
"	8 P.M.	103	124	33	
"	8.30 P.M.	102.8	126	32	
"	9 P.M.	101.2	114	32	
"	9.30 P.M.	101	118	31	
"	10 P.M.	100.6	112	32	
"	11 P.M.	102	120	32	
"	12 M.	103.6	128	34	
July 22d.	1 A.M.	104.4	126	33	
"	2 A.M.	105.2	133	35	30 grs. antip., hypod.
"	3 A.M.	105.6	138	35	30 grs. antip., hypod.
"	4 A.M.	103.7	128	35	15 grs. antip., hypod.
"	5 A.M.	103	128	34	
"	6 A.M.	101.7	120	31	
"	7 A.M.	101.5	118	31	
"	8 A.M.	100.2	110	29	
"	9 A.M.	99.3	104	29	
"	10 M.	100.4	108	29	
"	12 A.M.	101.9	114	30	
"	2 P.M.	100.5	116	30	
"	4 P.M.	100.3	110	30	
"	6 P.M.	99.6	105	28	
"	8 P.M.	99.9	102	28	
"	10 P.M.	100.2	112	26	
"	12 M.	100	100	28	
"	2 A.M.	99.6	98	24	
"	4 A.M.	98.8	92	24	
"	6 A.M.	98.8	90	..	
"	8 A.M.	99	84	22	
"	10 A.M.	98.5	86	23	
"	12 M.	98.7	82	24	

This chart is taken from a case of sunstroke. On July 21st, which was one of the hottest days last summer, the temperature being 101° F. in the shade, at three o'clock in the afternoon a call was received to see a man in the country. The patient was a mason by occupation, and had been working since early that morning under the sun's rays, and had consumed about three pints of beer. He had been unconscious for about two hours before he was seen. At four o'clock his temperature was 107.8°, pulse 134, and of very fair quality. His breathing was stertorous, and the face decidedly cyanosed. He was given at once four drachms of whiskey and ten grains of carbonate of ammonia hypodermatically. An ice cap was placed on his head and the body was sponged continuously for one hour with ice-water. The thermometer now recorded a temperature of 108.4°. The antipyrine, for which a messenger had been detailed, now arrived, and thirty grains of the drug were given hypodermatically at once. At the end of one hour the temperature was 107.5°, and forty-five grains of antipyrine were exhibited in the same manner as before.

In one hour's time the temperature was recorded as 103.8°, and fifteen grains more were given hypodermatically, and the temperature thereupon sunk to 100.6° by ten o'clock the same night. The pulse had been lowered in frequency to 112, but it had lost its forcible character, and five grains of carbonate of ammonia, five minims of the tincture of digitalis, and one drachm of whiskey were hourly administered. The temperature now steadily rose until 2 A.M., when it was 105.2°. Thirty grains of antipyrine were now administered hypodermatically. At the end of one hour, the temperature having risen to 105.6°, thirty grains were again exhibited in like manner. By four o'clock the next morning the temperature had been lowered to 103.7°, and fifteen grains of the drug were further ordered to be given. The temperature now slowly sunk to 99.3° by nine o'clock in the morning. The pulse-rate wavered with the temperature, and was at this hour of the day 104, but soft and compressible.

The patient gave the first signs of consciousness at nine o'clock in the evening, and at half-past ten he could easily be roused, and would answer incoherently when spoken to. The temperature oscillated the whole of the 22d between 99° and 102°. It was toward evening of the second day of the disease that his mind became clear, and he was able to give a lucid account of what had transpired on the previous day up to the time of the accident.

A mere glance at this case, with its accompanying chart, seems to us all that is necessary to dispel any sceptic ideas as to the efficacy of antipyrine, and to place it far beyond the reach of any other antipyretic means of the present day. The power evinced by the drug, even in this single case, is sufficient to call forth an unbounded welcome to its discovery, and stamp it as a landmark in the advance of modern medicine.

The next case is one of erysipelas, involving the face and scalp, in a lady, forty-three years of age, who had never before had a similar attack. It was idiopathic in origin, and was seen on the fourth day after its onset.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
August 28th	10 A.M.	103.4	108	30	
"	12 M.	104.7	124	..	
"	2 P.M.	105	128	31	30 grs. antipyrine.
"	3 P.M.	103.6	116	..	30 grs. antipyrine.
"	4 P.M.	102.4	108	..	15 grs. antipyrine.
"	5 P.M.	102	104	..	
"	6 P.M.	101.7	100	..	
"	7 P.M.	101.4	94	..	
"	8 P.M.	100.9	90	..	
"	9 P.M.	100.6	88	..	
"	10 P.M.	100	88	..	
"	11 P.M.	99.2	84	22	
"	12 M.	100.6	86	..	
August 29th	1 A.M.	100	96	..	
"	2 A.M.	99.5	94	..	
"	3 A.M.	99.3	94	24	
"	4 A.M.	100.4	98	..	
"	5 A.M.	100.5	102	..	
"	6 A.M.	102.4	110	..	
"	7 A.M.	103.8	114	..	
"	8 A.M.	104	122	..	
"	9 A.M.	104.3	128	..	

At 3 P.M., on August 28th, with a temperature of 105°, thirty grains of antipyrine were exhibited; in one hour thirty grains were again given; the temperature then recorded was 103.6°, and an hour later fifteen grains were once again administered, the temperature now being 102.4°. The fever now gradually disappeared, and at 11 P.M. was 99.2°, and it oscillated between this point and 101° during the subsequent five hours. It was in this case, and in this alone, on which we have used antipyrine, that chilly sensations were experienced just before the pyrexia was re-established. In this case it occurred at 4.30 A.M. of the 29th. The temperature had suddenly risen two degrees in one hour, and was preceded by chilly sensations for fifteen to twenty minutes, which were, however, readily amenable to a dose of chloroform and whiskey. The chilly sensations were never repeated in this case, although the drug was administered on several subsequent occasions. Notwithstanding the fact that the lowest point recorded by the thermometer was not normal, still it was practically so, and when we reflect how difficult it sometimes is to make even the slightest impression on the temperature in this affection, our estimation of the remedy as a universal antipyretic is, if anything, raised in our minds. The drug was used in other cases of an analogous character with similarly good results, and without the occurrence of either chills or chilly sensations.

The last chart is of a case of acute pulmonary phthisis, whose course ran with high temperature. On October 3d, at 9.30 A.M., the patient received thirty grains of antipyrine, when the temperature was 103.4°; an hour later fifteen grains more were administered, and then the temperature was recorded every half-hour. The chart shows that the temperature now gradually sunk until the minimum was reached at two o'clock in the afternoon. Five hours elapsed before the lowest temperature was recorded, and then slowly the temperature returned until it had mounted up to 103.5° by half-past six. The temperature curve forms a wave, of which the central point is equally distant from the two ends. Perspiration occurred in this case also, making its appearance an hour after the exhibition of the first dose, and was at its height a half hour, that is, when the second allowance was given. Appended is the chart belonging to this case.

Day of month.	Hour.	Temp.	Pulse.	Resp.	Treatment.
October 3d.	9 A.M.	103.4	102	31	
"	9.30 A.M.	103.4	98	31	30 grs. antipyrine.
"	10 A.M.	103.4	96	30	
"	10.30 A.M.	102.9	94	28	15 grs. antipyrine.
"	11 A.M.	101.3	89	30	
"	11.30 A.M.	100.6	82	29	
"	12 M.	99.9	80	28	
"	12.30 P.M.	99.3	78	31	
"	1 P.M.	98.9	78	29	
"	1.30 P.M.	98.7	74	31	
"	2 P.M.	98.5	74	26	
"	2.30 P.M.	98.9	82	22	
"	3 P.M.	99.1	96	28	
"	3.30 P.M.	99.5	90	24	
"	4 P.M.	100.4	96	31	
"	4.30 P.M.	101.1	96	33	
"	5 P.M.	102	100	30	
"	5.30 P.M.	102.9	104	32	
"	6 P.M.	103	108	34	
"	6.30 P.M.	103.5	108	34	

Numerous other charts might be adduced to attest the marvellous powers of this drug as an antipyretic, but in apprehension of making this article still more voluminous we must forego the desire of offering additional testimony. The drug has been largely employed in cases of chronic pulmonary phthisis, attended by high temperatures. It was in this affection that cyanosis occasionally followed from the use of the remedy; and in one case, occurring in the hands of a fellow-colleague, it resulted in a fatal issue—though in this case it is hardly impartial to ascribe dissolution entirely to the antipyrine, as the case was quite far advanced.

In numerous cases of intermittent fever has the drug been resorted to. It shortens the duration of the fever, but it neither prevents the occurrence of high temperature nor of a subsequent chill. More explicitly, if given immediately after a chill, even hypodermatically, it does not prevent the fever from coming on, but it unquestionably moderates it. If administered after the temperature has reached its ultimatum, it hastens its disappearance. In this affection it will never cope with quinine. The same may be said of it in acute articular rheumatism, that it will never vie with salicylic acid. In this latter affection it will reduce the temperature, and thereby relieve many of the concomitant annoying symptoms. In a few cases it seemed to have a beneficial influence upon the affected joints; they became less tender and inflamed, and allowed more freedom of motion.

We have used the drug in inflammations of the serous membrane, in pleurisy, peritonitis, and meningitis, and

have invariably found it capable of reducing the temperature. In one case of puerperal fever it was used with remarkably good results. The temperature ranged in this case between 102° and 106° before the drug was called into use. The fact must, however, not be forgotten, that with the use of the antipyrine more scrupulous measures were adopted in the ablutions of the cavity of the uterus.

The drug has now been tried eighteen months, and the collective results differ materially very little.

Our experience warrants us in coming to the following conclusions:

1. We possess in antipyrine an antipyretic which will reduce temperature most powerfully and rapidly.

2. It is in the great majority of cases perfectly safe; only in very much depreciated states and in delicate children must it be warily given and guarded by cardiac stimulants.

3. It lacks nearly all the disagreeable features which other antipyretic drugs possess. Perspiration occurs in a large proportion of cases, but does not seem to enervate the patients or render them uncomfortable. Pruritus occasionally coexists with the eruption. Vomiting now and then occurs.

4. It may readily be introduced into the system through various channels. Its taste is not particularly disagreeable, and may be easily disguised by some aromatic. Hypodermatically given it acts more decidedly and rapidly, and avoids the possibility of disturbing the stomach. It is unirritating. It may also be given per rectum.

5. It cannot cope with quinine as an antiperiodic or tonic, nor with salicylic acid in acute articular rheumatism.

6. It has practically no influence upon the pulse and respiration. If the pulse be dichrotic, the secondary wave entirely, or nearly, disappears. In other words, it raises the arterial tension.

In conclusion, we would say that very little doubt is entertained but synthetic chemistry will develop many new compounds which may prove of avail at the bedside as antipyretics; but it is our firm conviction that at the present day antipyrine, in sufficiently large doses, is the most powerful, the most certain, and the safest antifebrile drug that we have in our materia medica.

142 East Seventy-fourth Street,

FOUR CASES OF AMPUTATION AT THE HIP-JOINT.

By THEODORE A. McGRAW, M.D.,

Detroit, Mich.

I wish to put on record four cases of amputation at the hip-joint. All of them took place in Detroit—two at Harper and two at St. Mary's Hospital. In the many changes which have taken place at Harper Hospital, the original notes of the two cases occurring there have been lost, and I am obliged, unfortunately, to report them in part from memory.

Case I.—Francis S——, aged forty-eight, entered Harper Hospital in March, 1872. He had been under treatment for over five years for a tumor of the right thigh, originating—as I judged from its history—in the soft parts, and gradually implicating the bone. Five times it had already been operated on by different surgeons, and five times it had recurred. On examination I found his whole thigh, from the junction of its upper and middle thirds, involved in a monstrous tumor. He was entirely disabled, and completely bed-ridden. Shortly after his admission into the hospital I amputated the limb at the hip-joint, although I designed, when I began the operation, to make only a high amputation of the thigh. Making large internal and external skin flaps, and cutting the muscles high up by a circular incision, I divided the bone below the trochanters. On examining the bone, after the bleeding vessels had been tied, I found the medulla to be thoroughly diseased, and I therefore proceeded at once to disarticulate and remove the upper fragment, thus changing the amputation into a disarticulation at the hip-joint. The stump healed kindly, and Mr. S—— left the hospital after a sojourn of not more than six weeks. The tumor, a mixed sarcoma, portions of which were myxomatous, contained both round and spindle cells. It had happened that the patient, when twelve years of age, had been injured by the caving in upon him of a bank of earth, and had suffered fracture of the necks of both femora. He had walked ever since with both feet widely everted. The upper fragment of the amputated femur is now in the museum of the Detroit College of Medicine, and shows still the marks of the old injury. On October 17, 1872, the patient returned to the hospital with a local recurrence in the stump. I thereupon cut the flaps entirely off close to the pelvis, leaving a large surface to heal by granulation. Before cicatrization was completed, however, there were evidences of the growth of another tumor in the granulating wound. At his urgent request I operated for the third time, cutting away in this operation some suspicious tissue under Poupart's ligament, and gouging out the acetabulum with a chisel. The operation was completed by the application to the surface of some strong sulphuric acid. He left the hospital on May 15, 1873. It is now nearly thirteen years since the last operation. A short time ago I wrote to his family physician, Dr. Johnson, of Minden, Mich., inquiring as to his fate and present condition. I received in reply the following letter, dated November 5, 1885:

"My Dear Sir: Your old patient, Francis S——, is hale and hearty. He has had no local return of the tumor, but there is a suspicious lobulated tumor of the arm (I forget which) of four years' standing, which I advised to let alone unless it should show alarming growth. His general health is good, and he may live yet ten or fifteen years. He does considerable labor in the line of gardening. He has, however, acquired the opium habit, on account of continued pain in the stump."

Case II.—John S——, aged ten, was taken into Harper Hospital on May 12, 1877, to be treated for a severe burn which he had just received at the iron-works from molten iron. The burn involved the whole of the left thigh except a narrow strip of skin, extending from the crest of the ilium to the middle point of the thigh, and occupying about one-fifth of the circumference of the limb. There were also burns on the leg and abdomen. It was not thought when he entered that he would survive the immediate effects of the injury. He rallied from it, however, and lived five months, during which time every effort was made by transplanting and grafting skin to heal the defect. After five months of unavailing effort, amputation at the hip was determined on as the last resort.

On October 3, 1877, I operated in the presence of the class of the Detroit Medical College. Dr. H. O. Walker controlled the hemorrhage by means of a staff in the rectum, so held as to press on the common iliac artery, and very little blood was lost during the operation.

The only integument available for a flap was that left unburned on the outside of the limb. I accordingly dissected it up to a point just above the trochanter, and gained in this way one long, narrow flap. The femur was then easily disarticulated, and the remaining structures divided by one sweep of the knife. The child rallied well, and bid fair to recover. On the second day, however, he began to complain of stiffness of the jaws, and a tetanus developed, to which he finally succumbed on October 10th, just one week after the amputation. During all this time the wound, though not healed by first intention, looked healthy, and, after the third day, discharged laudable pus.

Case III.—W. E. L——, of Utica, Mich., aged forty-four, had received during the war a shell-wound of the knee, and had ever since suffered from lameness and stiffness of the joint. In March, 1883, he received a

slight injury on the site of the old wound, and the knee became inflamed again. The consequent swelling never subsided, and the knee and thigh gained steadily in volume; and in March, 1884, his physician, Dr. A. Knight, sent him to St. Mary's Hospital for amputation. On examination I found an enormous tumor, involving nearly the whole thigh and ulcerated at the knee. The patient insisted upon having everything done which might offer hope, and although I had but slight hope of establishing a permanent cure, I proceeded, nevertheless, as a last resort, to amputate at the hip. The operation was performed before the class of the Detroit Medical College, on March 17th, in the following manner: From a point midway between the crest of the ilium and the trochanter, an incision was made to a point on the outer aspect of the thigh, at the junction of its upper and middle thirds. The knife was carried through this cut into the joint, and disarticulation effected, though with great difficulty, on account of the great depth of the joint. The long amputating knife was then made to transfix the thigh from the outer to the inner side, and cut a long anterior flap. A shorter posterior flap was next formed, and the arteries secured. Hemorrhage was controlled in this case by Dr. Boice, by pressure exerted over the arteries by means of a long piece of rubber tubing which was passed in a figure of eight around the thigh and body in such a manner as to cross both the femoral and gluteal arteries. At the moment when the flaps were cut, they were seized in the hand and compressed, thus adding direct digital pressure to that caused by the tubing. The loss of blood was very slight, and the patient rallied from the operation, and recovered with hardly a bad symptom. The tumor proved to be a large, white, round-celled sarcoma. While the tissues were filled with the deposit there were also separate masses, which, when dislodged, looked like great lumps of tallow. The bone, from one end to the other, was completely infiltrated with morbid cells, and its whole structure had become soft and friable. Mr. L—— left the hospital on June 10th, with his wound all but healed. He had begun, however, to cough slightly, although without fever or pain. After his return to Utica the cough became more constant and severe, and it became evident that a secondary deposit had taken place in his lungs. He died on August 10, 1884, nearly five months after the amputation.

Case IV.—William R——, a German, living at Firehaven, aged thirty-seven, entered St. Mary's Hospital on September 15, 1885, suffering from an osteo-sarcoma of the left femur. Eighteen years before he had first noticed a slight soreness of the left knee-joint, arising without apparent cause and unaccompanied by swelling. Ever since then he had experienced occasional pains in the joint, but had never been lame. On April 1, 1885, he noticed for the first time that the knee was swollen, and he dated from that time the beginning of a tumor which developed rapidly in the lower end of the femur. On examination I found a tumor, limited apparently to the lower half of the thigh. In reality, as was proved by subsequent dissection, the whole bone, from the head to the condyles, was involved in the growth, while the soft parts were infiltrated far beyond the apparent disease. The swelling was very sensitive to pressure, and measured twenty-four inches at its greatest circumference. He could bear no weight on the limb, and went on crutches.

In other respects his health seemed to be superb. He was the picture of vigorous manhood, and no symptom indicated trouble with any vital organ. As a matter of routine I directed the examination of his urine. It proved to be of normal quantity, specific gravity, and appearance, and contained no albumen. The microscopical examination was unfortunately neglected.

On September 23, 1885, I amputated at the hip-joint, using every antiseptic precaution, except the spray. The control of hemorrhage was intrusted in this case also to Dr. John Boice, and Dr. H. O. Walker assisted me in the operation, which was performed publicly before the college class.

In this case, as in the last, the rubber tubing was drawn tightly around his thigh and pelvis in a figure of eight. The patient, however, weighed about one hundred and sixty pounds, and was correspondingly difficult to handle. From this cause the rubber tube became displaced during some of the manipulations, and its use was abandoned. Hemorrhage was, however, thoroughly prevented, first of all, by digital pressure over the femoral vessels, and, in the second place, by the instantaneous seizure of the flaps by the hands of the assistant at the very moment when they were cut. His pulse at the close of the operation was even stronger than at the beginning. I operated after the following method:

An external cutaneous flap was first cut by an incision beginning a little below Poupart's ligament, and just inside of the anterior inferior iliac spine, extending in a curve to a point on the outer aspect of the thigh six inches below the summit of the trochanter, and thence to a point a little anterior to and above the gluteal fold. An internal flap of skin was cut to correspond. The muscles inserted into and around the trochanters were then divided and the joint exposed. During these procedures the bleeding vessels were tied as soon as divided. Disarticulation was now effected and the remaining structures divided by one sweep of the knife, the fingers of the assistant following the knife and seizing the cut vessels. The wound was closed with great care, the muscular ends being sewed together with catgut, a drainage-tube inserted into the acetabulum, and the flaps carefully adapted to the underlying structures. Antiseptic dressings were applied with great care, and the patient put to bed with every prospect of recovery. He did well after the operation in every respect but one. During two days his temperature did not rise above normal, but just before his death reached its maximum of 99½° Fahrenheit. On the evening of the 23d nine ounces of urine were drawn by catheter, but after that there was not a drop secreted. He complained of pain in the region of the kidneys, and hot fomentations were applied to relieve it. He died sixty hours after the operation, in full possession of his faculties, apparently of suppression of urine, although there was no uræmic coma.

A post-mortem examination revealed small contracted kidneys which did not seem to be unusually congested. I was gratified to find no trace whatever, in any organ, of a secondary sarcomatous deposit, which, had it existed, might have brought in question the propriety of the operation. As it was, I feel justified in declaring that the operation, if successful as an operation, would probably have added years to the man's life. The disease of the kidneys undoubtedly caused the fatal result, but I do not think that I should have refused to give the patient his one chance of life, by performing the operation, even though I had discovered the kidney trouble in time to consider it as a factor in the prognosis. The examination of the amputated member revealed the same complete involvement of the bone which had attracted my attention in the cases of S—— and L——. The tumor was carefully examined by Professor George Duffield, and proved to be a round-celled sarcoma.

Of these four cases two lived and two died. The two which survived were nearly at the last extremity when operated on—one of these survives to-day, and, I may say truthfully, has gained by the amputation many years of life. All four patients were in a condition which would have given a bad prognosis to any operative procedure, for three of them had been debilitated by long-standing disease, and the fourth was afflicted with the most insidious form of disease of the kidneys. It would not be fair, therefore, to accept such cases as in any way influencing the prognosis of an amputation at the hip in a comparatively healthy subject. This consideration has an especial bearing upon the question of disar-

ticulation at the hip for tumors of the thigh involving the femur.

When a sarcoma springs primarily from the medulla of the bone, or the inner wall of the compact substance, or from the cancellated tissue at either end, it will grow, like all tumors, fastest in the direction of the least resistance, which, in such a case, will be along the medullary canal. I think that I am warranted in saying that such a tumor will infect a bone to its very extremities long before the swelling caused by its growth has become very appreciable. A small sarcoma at the lower end of the femur, therefore, although confined apparently to the condyles, demands amputation at the hip. If an exception were to be made in favor of the giant-celled variety, the so-called myeloid tumor, or if against this dictum may be justly urged the difficulty of diagnosticating the true character of a bony tumor in its earlier stages, the proposition might be modified by confining its application to tumors of very rapid growth, or by providing for an explorative operation to precede that which should be radical. The practice of the profession in dealing with tumors arising in all other bones is to disarticulate at the proximal joint; that it is not so with the femur is shown clearly by the statistics of hip-joint amputations given by Max Schede, as quoted by Erichsen, in which one hundred and fifty-three cases are reported as performed on account of disease. It is evident that the rule of disarticulating at the hip for malignant sarcoma of the femur, if adhered to generally by the profession, would yield more than that number of cases in a single year. There must be some reason for the exceptional avoidance of this operation by surgeons. It may be that these cases are regarded by many as hopeless from the very beginning, and yet that reason for its avoidance could hardly be urged by those who, nevertheless, amputate in the continuity. My first case presented a most hopeless appearance, and the malignant nature of the disease is indicated by its recurrence in the arm after many years, and yet the patient has gained already by the operation thirteen years of life. The last case operated on, although involving the whole thigh-bone and a large part of the soft tissues of the thigh, failed, on post-mortem, to show a single nodule of secondary deposit.

As regards the dangers of the operation in comparatively healthy subjects, I think that it may be overrated by the profession.

The statistics are made up for the most part of cases operated upon in advanced stages of disease. Not one of my four patients can be said to have been in a condition favorable to an operation at the time of operation. Two out of the four nevertheless recovered. The danger from hemorrhage is not great except in very fat, heavy, and at the same time anæmic subjects. The bleeding from the femoral vessels can be readily controlled by a good assistant, who grasps them at the moment of division, and that from the posterior vessels is by no means so excessive as to endanger life before the surgeon can seize and ligate them. One point, however, in operating, I should insist on, namely, that disarticulation should be accomplished before any of the larger vessels are divided. The plan of procedure which I should prefer, with my present experience, would be as follows: The control of the femoral vessels should be intrusted to the unaided hands of a competent assistant, who would follow the knife and grasp them when cut. An external and large flap of integument should be made by an incision extending from Poupart's ligament, outside of the crural nerve, a sufficient distance downward and outward, and curving around the femur to a point a little above the trochanter behind. As the patient lies on his back with extended thigh, the flap should measure an equal distance from either edge (anterior and posterior) to the great trochanter. When this flap is dissected up so that it can be lifted clear of the great trochanter, an inner flap, also of integument, should be made by joining the incisions already made by another, which is carried around the inner aspect of the thigh; the muscles inserted in and around the trochanters are now freely divided, and disarticulation effected. One circular sweep of the knife completes the amputation, and the surgeon, leaving the care of the femorals to his assistant, immediately applies spring forceps to all other bleeding vessels and proceeds to tie them. Should the preliminary incisions be followed by much hemorrhage, the surgeon may tie the vessels injured before proceeding further, and thus make a nearly bloodless operation.

After my experience in this operation, I should certainly discard all abdominal tourniquets, rubber bands, and rectal staffs. It is my belief that the desire of surgeons to display their skill in performing this operation rapidly, and especially in making the flaps first and then disarticulating, is responsible for the great loss of blood which has made it a terror to operators. I can well understand how the necessity of performing a rapid disarticulation at the hip, while bleeding flaps were pouring out quantities of blood, should try the nerves of the most experienced operator. All this can be avoided by the simple expedient of disarticulating first and amputating afterward.

In conclusion, I will say that I hope in the future to learn of a more frequent performance of this operation for malignant tumors of the thigh in their early stages. The general rule applied to cancerous and sarcomatous tumors of other bones, of removing the whole affected bone, should be relentlessly applied to the femur also; and I feel confident that the statistics of the operation, if performed, not as a forlorn hope, but as a hopeful and early effort to save life, would soon cause it to rank among the favorite operations of practical surgeons.

ELEVEN CASES OF PHTHISIS TREATED BY INTRA-PULMONARY INJECTIONS OF CARBOLIZED IODINE.[1]

By JOHN BLAKE WHITE, M.D.,

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In a treatise upon "Phthisis Pulmonalis," by J. Hughes Bennett, the author remarks: "I confidently look to the future as affording means for demonstrating the ratio and conditions under which the prognosis of phthisis may be determined. In the meantime, I can only express my conviction that its permanent arrestment and cure are, by judicious treatment and hygienic management, becoming every day more frequent and more widely extended."

Assuring remarks like these from a man of such recognized skill and experience cannot fail to encourage the profession at large to renewed efforts to check this greatest outlet of human life.

Physicians have tested, over and over again, the merits of sprays and of inhalations of vaporous solutions. Astringent fluids, as well as other fluids, have been injected down the larynx and into the bronchi for the cure of phthisis. Actual openings of the pulmonary cavities from without have been practised, and every effort made to cause them to cicatrize; but the results have been unpropitious. I feel confident, however, that some such plan of surgical treatment, with strict attention to the principles of antisepsis, as practised at the present time in cases of abdominal section, can be made quite as successful and warrantable a procedure in these cases.

The curability of phthisis, in its several stages, is becoming quite as established as the fact that the disease is, in this country, one of progressive mortality.

Post-mortem examinations frequently demonstrate that the disease has been checked, not only by medical skill, but sometimes by natural effort. The more we study the nature and progress of consumption, the more do we be-

[1] Read before the Lenox Medical and Surgical Society, March 8, 1886.

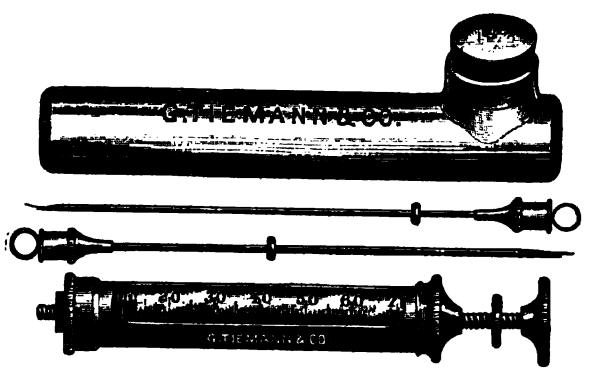
come convinced that local medication must enter largely into its successful treatment.

Actual injections into pulmonary cavities through the intercostal spaces have been practised within a very recent period, with some supposed benefit, and the procedure appeared to me so very rational a plan of treatment that I determined to make a judicious trial of it during my service at Charity Hospital, where a large number of cases were aggregated. The local application of remedies which possess and exert alterative influences seems to promise the most reliable means of ridding the system of the tubercular material, either by disappointing its development or by rendering it capable of absorption or excretion.

This process would, of course, be more or less active in proportion to the patient's physical condition, which would be maintained by an arrest of the local destructive conditions present in the lungs.

The successful treatment of phthisis would include every means, local and general, for checking the accumulation of the tubercular exudation and arresting ulcerative processes, for the system suffers, of course, in proportion to the extent and continuance of suppuration, if not from the actual absorption of the products of ulceration. We observe every day, in the wards of our large hospitals, many patients who, in consequence of a low state of vitality, manifest dangerous tendencies to suppurative disturbances after accidents. The injured tissues decay, and indolent ulcers appear which require lotions or ointments of a stimulating character to induce healing action. The walls of pulmonary cavities are similar to those of indolent ulcers on the external parts in the continuous molecular disintegration of contiguous tissue, and require, it seems reasonable to suppose, direct local treatment. Specialists in every branch of medicine appreciate the value of, and practise local medication in addition to, the general treatment of the patient.

In view of all these facts, I ventured to treat a few cases of phthisis by the careful introduction of a few minims of carbolized iodine into the pulmonary excavations, through the intercostal spaces, by means of a small syringe and needle which I had made for the purpose by George Tiemann & Co. The case consists of a graduated



metallic and glass syringe large enough to hold one drachm of fluid, a wide-necked reservoir for holding the solution to be used, and two needles, four inches in length, made of well-tempered steel, of the calibre of a small-sized aspirating needle.

At the extremity for the escape of the fluid are three or four apertures arranged circularly, which permit the injection to enter the pulmonary cavity in the form of spray. Along the shaft of the needle is arranged a movable guard of hard rubber, which is used to regulate the depth to which it is desired to insert the needle into the lung, in order to reach the cavity which is the subject of treatment.

The depth of the cavity and its location can be determined, by auscultation and percussion, with accuracy, which is a proceeding requiring due study and skill.

By this plan of treatment the most urgent symptoms were in all of the cases relieved so long as the treatment was continued. In two aggravated cases, though the symptoms which distressed the patients most were ameliorated and life apparently prolonged, they nevertheless succumbed to asthenia a few weeks after treatment was discontinued.

The distressing cough always present in these cases was markedly controlled, and the expectoration, which in some of the cases was excessive, was diminished materially by the injections. The patients' general health in some of the cases seemed to have decidedly improved. This was especially observed in Case II., where expectoration one week after the first injection was reduced from ten ounces to one ounce in twenty-four hours, and in Case XI. from sixteen ounces to two ounces in the same period.

The prognosis seemed so unfavorable in Case II., when I began service at the hospital in November, 1885, that I rather hesitated to subject him to the treatment. Nevertheless, he revived so much after the first and second injections, that when I last saw him, in January, 1886, two months after I instituted the treatment, he appeared in every respect much improved in health and strength.

This case seemed especially unpromising of good results from treatment, as he had a very large excavation in the right (upper portion) lung, and a small excavation enlarging in the left apex, and though in every respect seriously ill, nevertheless responded immediately to treatment in the most satisfactory manner.

A paroxysm of coughing followed the injections in almost all the cases, but in a few minutes ceased, and for two or three days after, the coughing was less frequent and the expectoration diminished. The night-sweats, which were quite profuse in some of the cases, seemed to be decidedly modified by the treatment. I had the pleasure and satisfaction of having had my diagnosis, in the first few cases, verified by Dr. James R. Leaming and my father, Dr. O. A. White, who visited the hospital with me on December 8, 1885, and on a subsequent occasion by Dr. J. L. Morrill, of this city.

In Case II., Dr. Leaming stated, after auscultation of the chest, that the cavity in the right lung had "hardened walls," which was not the condition prior to the intrajection of carbolized iodine, and affords a valuable instance of the benefit following this plan of treating phthisis. I am indebted to Dr. William Moore, House Physician, Charity Hospital, for a record of the cases treated and carefully taken notes of the progress of the patients under treatment.

Case I.—D——, male, aged forty-three. A large cavity at right apex, with flabby edges and loud, moist, gurgling rattles. Patient's general condition fair, though manifestly emaciated; appetite fair. Some dulness obtained over left apex.

First intrajection practised November 31, 1885, followed immediately by very little coughing. Tasted the iodine. Between forty-eight and seventy-two hours after the operation the coughing was less frequent and the expectoration diminished. The pain which he felt prior to the operation over the region of the cavity was also ameliorated. Four hours after first intrajection the temperature was 100.4°, ten hours after, 99.6°, and twenty hours after, normal.

Second injection, given December 5th, was followed by a severe paroxysm of coughing, which continued for about fifteen minutes, with frothy fibrinous expectoration. Complained of pain at the point of puncture for some hours after the operation. Cough and expectoration controlled.

Third injection performed December 8th, in the presence of Drs. Leaming and O. A. White. Coughing and expectoration of frothy fibrinous character followed immediately after the operation, but both ceased in a few minutes. The patient's general condition between the

second and third days after was much improved, and the temperature never exceeded 99.6°.

CASE II.—S——, male, aged forty-seven. A large pulmonary excavation was discovered on examination at the upper portion of the right lung, extending down to third intercostal space. There was also dulness on percussion over the left apex, and a small cavity diagnosed in this region. The patient was weak and emaciated. Night-sweats profuse and exhausting. Loud, moist, gurgling rattles over upper portion of right lung heard anteriorly and posteriorly. Expectoration was quite abundant, and cough distressing and frequent.

First injection, given November 28th, was followed by very slight pain, and a short paroxysm of coughing, with a frothy fibrinous expectoration, which ceased in about ten or fifteen minutes. Almost immediately after the injection the patient tasted the iodine and carbolic acid.

Second injection was administered December 1st, after an attempt was made to aspirate the right cavity, with the hope of removing some of the large amount of the exudation which was present. Although a good-sized aspirating needle was introduced into the cavity, none of the pus was withdrawn, which was due, doubtless, to the very viscid and tenacious character of the fluid contents of the cavity.

About fifteen minims of the carbolized iodine were then introduced into the cavity. A violent paroxysm of coughing was occasioned, followed by frothy fibrinous expectoration. Between forty-eight and seventy-two hours after there was so much pain complained of, which he described as *burning* in character, that a morphine hypodermic was administered. This soon gave relief, after which the cough and expectoration were lessened, and the patient declared himself feeling generally much better. After the first intrajection there was a slight rise in temperature, within twenty-four hours not more than .4° to .6° above normal, to which latter degree it gradually fell within a short period. The temperature was not materially affected after the second intrajection.

On December 8th the patient's general condition was quite satisfactory. Coughed less frequently. Expectoration reduced from ten ounces to one ounce in twenty-four hours, and the facial expression less pinched and anxious than it was prior to the commencement of the treatment. Upon auscultation the moist sounds were found decidedly modified, and the walls of the cavity gave every indication of a more dry or hardened condition, suggesting an attempt at cicatrization. I desired to repeat the treatment, but the patient's recollection of the pain following the last operation caused him to oppose any interference at present. I do not think there is any doubt but that the pain he experienced after the last intrajection was due more to the insertion of the large aspirating needle than the injection of the carbolized iodine. No such irritability occurred after the first injection, nor was the same amount of pain occasioned in any of the other cases treated with the same injection.

I had an opportunity of seeing this patient in the month of January, when his condition seemed so much improved that I could not but think that, had he permitted a continuance of the treatment, a positive cure might have resulted. I am, nevertheless, impressed with a conviction that his life has been most certainly prolonged by this treatment, due to the arrestment, or perhaps I should say modification, of the destructive process in the lung.

CASE III.—M——, male, aged forty-nine. A large cavity under second intercostal space, left lung. Small cavity also at right apex. Patient's general condition fair. Cough and expectoration symptomatic. Night-sweats profuse and debilitating.

First intrajection, given November 28th, was followed by very little pain. Absolutely no paroxysm of coughing, and no expectoration resulted. Did not taste the injected fluid. Between forty-eight and seventy-two hours after, the symptomatic cough was less frequent, and the mucopurulent expectoration was diminished one-third. Six hours after the operation the temperature was 100.6°, and twelve hours after it was normal.

Second injection, given December 1st, was followed by slight pain and some cough, with moderate expectoration. Tasted the carbolic acid. Forty-eight to seventy-two hours after the operation the expectoration continued to be less in quantity and the cough harsher. The night-sweats entirely checked.

Third injection was given December 22d, and produced prolonged coughing, with frothy fibrinous expectoration, which continued for twelve hours. Tasted the injected fluid and complained of heat in the part of the lung injected. A regular rise of temperature for three successive afternoons was noted, varying from .5° to 1.5°, due, undoubtedly, to some special influence other than the treatment.

CASE IV.—B——, female, aged twenty-two. When admitted to the hospital this patient was greatly emaciated. Both lungs excavated, though the left organ manifested a greater degree of decay. Night-sweats profuse. Cough and expectoration were urgent.

First injection, given December 8th, was followed by considerable pain and prolonged coughing. Patient was slightly hysterical for a short period. Forty-eight to seventy-two hours after operation no marked change in the cough or expectoration was observed. The taste of the injected fluid was still present. Twenty-four hours after the injection the temperature varied from 100° to 101.4° for subsequent four days.

It was not deemed advisable to repeat the pulmonary injections on account of the debility of the patient. She died January 8, 1886.

CASE V.—H——, female, aged forty. Small cavity at right apex. Expectoration abundant. Night-sweats urgent. Patient's general condition fair.

First injection, given December 11th, produced little pain, no cough or expectoration; patient tasted fluid injected. Between forty-eight and seventy-two hours after, the patient declared she felt much better than before the operation, and her cough and usual expectoration decreased. Six hours after the temperature was 99.8, but gradually fell to normal within twelve hours.

Second injection administered December 22d. Felt some pain in posterior aspect of lung corresponding to point of injection anteriorly. Some cough followed, with slight fibrinous expectoration. Between forty-eight and seventy-two hours after, the pain in back of chest ceased, and she continued, in her own words, to "feel better." The temperature, about twenty-four hours after injection, was 98.5.°

CASE VI.—C——, female, aged twenty-five; patient greatly emaciated; cavities found in both lungs—upper portions; expectoration not excessive, but always tinged with fibrine; complains of pain in both lungs. First injection administered December 11th. Was followed by slight pain; no paroxysmal coughing, but ordinary cough resulted in slightly blood-stained expectoration. Did not taste the injected fluid. Between forty-eight and seventy-two hours after, the pain in the lung disappeared. There was no variation in temperature other than a rise of from .4° to .6° every afternoon. As this patient became insane, the treatment was not continued, and on January 1, 1886, she was transferred to the city asylum. Symptoms of mania were apparent before the treatment was commenced.

CASE VII.—D——, male, aged forty-eight. A large cavity was discovered in the upper part of right lung, and a small excavation at the apex of left lung. Excavating process was rapidly extending. Emaciation marked and rapid, with anorexia and profuse night-sweats. First injection administered December 12th, followed by no cough nor other result than taste of the injected fluid. Forty-eight hours after the operation his usual coughing was rendered less urgent. Expectoration

was not affected. There was no rise in temperature above 99° up to time of the second injection, December 18th, after which the expectoration was lessened, and the patient declared himself better. Third injection was given December 22d, and was followed by pain and prolonged coughing, with fibrinous expectoration, which ceased in due time, and the patient's condition was subsequently improved.

CASE VIII.—S——, male, aged thirty-seven. A small cavity was found at right apex, and dulness on percussion over left apex. Emaciation not pronounced. Expectoration excessive. An injection was administered December 18th, which caused only a slight amount of coughing and clear expectoration. Forty-eight hours after, cough and expectoration slightly modified; complained of some pain at the point of injection on respiration. Temperature not above 98.5°.

CASE IX.—S——, female, aged thirty-one. Both lungs excavated; the right more extensively. Patient very anæmic, and much exhausted from repeated pulmonary hemorrhages. Night-sweats profuse; cough distressing; expectoration abundant. Right lung injected December 15th. Trifling pain followed, with no paroxysmal cough and no expectoration. Had some pain posteriorly in chest, corresponding to anterior part of the lung injected. This pain ameliorated between forty-eight and seventy-two hours after the administration of the injection. Cough less urgent, but amount of expectoration about the same. Temperature not affected. Second injection was administered December 25th, and was followed by much pain and a hemorrhage. Patient manifested symptoms of shock, requiring stimulants. During subsequent three days the patient was semi-delirious and pulse continued feeble. On the fourth day mental integrity was restored, but patient seemed quite feeble. Temperature twenty-four hours after injection was 97.8°, and respirations were 40. On the fourth day the temperature was 98.8° and respirations 22. As I left the service January 1st, the treatment was not continued. This patient died January 25, 1886.

CASE X.—G——, male, aged thirty-six. A very large cavity was made out at right apex, and one almost equally as large in upper part of left lung. Sweats profuse; cough and expectoration urgent.

First injection was administered December 15th, which was followed by some pain and slight coughing without expectoration. The paroxysm of cough did not continue long. Three days later the patient was much better. Expectoration and cough remained the same as before the operation. No noticeable change in temperature took place.

Second injection was given December 22d, after which a paroxysm of coughing ensued with some bloody expectoration. From the second day after, the expectoration was perceptibly diminished. There was no change in the temperature, and the patient continued better up to the termination of my service, January 1, 1886.

CASE XI.—May 1, 1886, I was invited by Dr. Ira B. Read to see in consultation with him Mrs. K——, aged forty-five, married, who has been the subject of phthisis for several years. All of the symptoms of consumption were pronounced. Night-sweats profuse and debilitating. Cough urgent, and expectoration excessive, amounting to a pint in twenty-four hours, and wholly puriform and fetid in character. A large excavation, elongated, was distinctly made out, extending from the apex of left lung down to fifth intercostal space, at which point loud, gurgling rattles were heard. There was manifest flattening of the left chest. In the presence of Drs. Read and J. L. Morrill I introduced twenty minims of carbolized iodine into the upper part of the cavity through the second left intercostal space. The operation was followed by no paroxysm of cough, nor was there any expectoration, and no pain or irritation whatever was complained of. May 5th, the following was received from Dr. Read: "Our patient is doing well; she has coughed but very little, and raised but little; she has not sweated any for two nights; she feels very hopeful, and does not dread our visit next Saturday. I sincerely wish she may be permanently benefited. I will get a full history of her case for you," etc. I quote Dr. Read's own words, that the very satisfactory character of the report may not be attributed to my enthusiasm and confidence in the treatment. May 8th and 13th, cavity injected with thirty minims of carbolized iodine, and excited no cough nor pain. No expectoration followed the injection up to the time we left the house. The patient manifested (May 13th) decided improvement in her general health. Had no night-sweats since May 8th. Cough less frequent, and expectoration much modified in quantity and quality. Her appetite has greatly improved. Has fancied and eaten meat. Has been out to walk every good day, and felt less fatigue than before the treatment was instituted.

As to the ultimate benefit likely to result from this method of treating phthisis, little can be judged from the limited experience thus far adduced. I cannot but feel, however, that the treatment is an eminently rational one and promises good results, especially in a more favorable class of cases. I take great pleasure in reporting these cases, hoping that they will afford interest and encourage others to study and experiment in the same direction.

When the treatment was first instituted, in November, none of the patients treated during this month manifested as much effect from shock after the injections as in December.

This I attributed to the fact that there was a decided difference in the temperature of the fluid used, and suggested the advisability of always warming the fluid to be injected up to the degree of the body temperature. The patient should be fortified with a stimulant before proceeding, and I have thought that sometimes the operation might better be preceded by a hypodermic of one-eighth ($\frac{1}{8}$) of a grain of morphia, with a hundred and twentieth ($\frac{1}{120}$) of a grain of atropia. Should this be done, of course, anodynes should be omitted from the fluid injected.

I advise this plan in preference to including these remedies in the intra-pulmonary injections, as it lessens the probability of shock, although I have sometimes included them, and with good results.

Dr. Gougenheim, of Paris, reported in *The British Medical Journal* the result of intraparenchymatous injections of bichloride of mercury ($\frac{1}{2000}$, $\frac{1}{1000}$, and $\frac{1}{100}$) in thirty-three cases of phthisis. Immediate improvement was observed in twenty-one of the patients thus treated, and only ten out of the whole number died. No muscular, pleural, or pulmonary lesions were found, at the necropsies of those treated, which could be attributed to the injections. This bears out my own experience in these particulars. Dr. Beverley Robinson, of New York, also reported cases treated in this manner, with benefit, using injections of dilute Lugol's solution. His article upon this subject (THE MEDICAL RECORD, January 10, 1885), as well as that of Dr. Pepper (*American Journal of the Medical Sciences*, October, 1874), are most valuable contributions to the treatment of phthisis by this method.

To patients afflicted with this justly dreaded affection the intra-pulmonary treatment opens up new hope, and, I think, with good reason. The plan of treatment enables the physician no longer to stand with folded arms awaiting for his patient the inevitable end, but puts in his hands the means of prolonging, and sometimes of saving, life.

The following formula is the one which I have been using, and which seemed to occasion the least amount of irritability when injected:

℞. Atropia..... gr. ½.
Morph. sulph..... gr. ij.
Tinct. iodine..... ʒ iij.
Acid. carbol. (pure)..... gtt. xx.
Glycerine..... ʒ iss.
Diluted alcohol, 20 to 30 per cent. ʒ iss.
M. Sig.—15 to 30 minims.

Clinical Department.

CASES IN OBSTETRIC PRACTICE—RESUSCITATION OF CHILD DELIVERED AFTER CORD HAD CEASED PULSATING—PECULIAR POSITION OF PLACENTA AS A CAUSE OF TEDIOUS LABOR.

Dr. William B. Lyman, of Wilson, Wis., sends the following instructive reports:

Case I.—Was called to attend Mrs. L——, in her third confinement, a distance of twelve miles from my office, and after a rapid drive arrived to find her in labor, having had pains for several hours. A digital examination revealed the os uteri fully dilated, the "bag of waters" yet unbroken, and a soft gelatinous mass presenting, together with a foot or hand, which I was then unable to determine. After several unsuccessful efforts to change the position of the child by bi-polar version, and concluding the presentation to be transverse from the condition already reported, together with the extreme lateral diameter of the uterus, I informed the father of the necessity for turning, and also that I could promise nothing as to the viability of the child when born, but thought it would probably be dead, anticipating in this prognosis the prolapsus of the funis, which occurred, and feeling that it would be impossible to deliver rapidly enough to save the child. After rupturing the membranes I found the cord extending about three or four inches external to the labia, and a hand and foot presenting, which proved to be the right hand of the child and the left foot, the head resting in the right iliac region. Owing to firm contraction of the uterus, I was unable to introduce my hand, for the purpose of podalic version, for some moments, but finally succeeded, and in the effort to deliver the child rapidly, by withdrawing it by the foot, the arm engaged with the head in the superior strait. At this time I felt the cord and found no pulsation, and it felt cold. I attracted the attention of the nurse to this fact, and remarked it was useless to hope for a living child. I then dislodged the arm from beside the head after several minutes of continued effort, and delivered. The cord was still pulseless, and there was no appearance of life in the child; but I wished to leave nothing undone, and so made efforts at resuscitation. After several minutes—possibly three—the first effort to gasp was seen, and breathing at intervals of fifteen or twenty seconds for several minutes. The child finally revived, and is now a bright little one of several months.

I regard this as a peculiar case from the fact of at least five minutes intervening from the time pulsation ceased in the cord to the time of nature's first effort to relieve the asphyxiated new-born, and think, after this experience, I will never lay a new-born babe aside until having used every effort at resuscitation, even though the case seems entirely hopeless.

Case II.—Called to see Mrs. D——; found her having slow but persistent dilating pains, os dilated about the size of a silver twenty-five cent piece, but thick and rigid, apparently not at full time. I gave anodynes, and in the morning left the patient comfortable. In a week I was called again, found patient had suffered same pains during pretty much the whole week. The os was dilated a little more than before, pains continued at regular intervals for twenty-four hours, during which time I remained with her. The os being still undilated, I observed that pains, although making the os rigid, failed to cause the bag of waters to make pressure against it and thus mechanically distend it. Pains were hard, and I concluded, although I had never read of similar cases, that the placental attachment was directly in the fundus of the uterus, and the membranes were too short to allow the "bag" to reach the os, especially as it became tense and fully distended with each pain.

Contrary to all teaching, I ruptured the membranes at this time, and the head descended, making pressure against the os, rapidly dilating it, and labor was normal from this time. After labor, found the opening in sac directly opposite placenta, showing my judgment to have been correct as to the location of placenta and probable cause of the tedious labor. What is the opinion of the profession as to this cause of tedious labor?

Progress of Medical Science.

Spasm with Spinal Motor Mechanisms.—In Dr. Sharkey's third Gulstonian lecture he considered the subject of spasm in connection with spinal motor mechanisms. He divided the subject into three parts, viz., 1, spasm produced by diseases of efferent spinal nerves; 2, spasm produced in a reflex manner by diseases of afferent nerves; 3, spasm produced by diseases of the ganglionic cells. Dr. Sharkey said that a large proportion of cases classed under 1 were not to be explained on the assumption that the diseased nerve caused excessive muscular contraction. The real fact was that the healthy muscles were those actively concerned, and produced contractures because the diseased muscles were passive, atrophied, and could not oppose them. Tetanus he regarded as perhaps an exception, but its pathology could scarcely be said to be known, and he had failed to make out any changes in the motor nerves. Even in regard to 2, Dr. Sharkey maintained that many cases are accepted as of reflex origin, which at any rate carry little conviction with them. Many cases occur where some sensory nerve is the seat of severe pain, or where a part is diseased which it is painful to move. A good example of the former class was furnished by facial muscular spasm accompanying facial neuralgia; and of the latter, rigidity in joint disease. But the most ordinary way of expressing pain was by some overaction of the facial muscles, and the ordinary way of preventing pain in joint disease was by keeping the joint still and opposing attempts at movement. Reflex spasm produced by disease of afferent nerves could therefore scarcely be dealt with apart from spasm produced by disease of ganglionic cells (3), for it was questionable how far stimuli applied to afferent nerves in chronic disease would produce muscular spasm if the centres were healthy. Reflex spasm no doubt did occur, but how frequently it did so, or how far the afferent or efferent nerves, or the nerve-centres, take the leading part in its production, were points which could scarcely be estimated. Dr. Sharkey supported Charcot's view, that various affections of joints may give rise to rigidity of muscles in a reflex way, and related a case in support of this opinion. He also gave an account of a case in which rhythmical contraction of the palmaris longus muscle occurred (ninety times a minute) after an injury and became permanent. Another case he brought forward was one of spasmodic movements of the jaw and of the floor of the mouth, due to injury.

The Relation of the Chorda Tympani to the Sense of Taste.—Dr. E. Schulte relates a case in which the chorda tympani nerve was divided in an operation on the left tympanic cavity. There followed immediately paralysis of taste in the anterior two-thirds of the left side of the tongue, and even after eight weeks there still remained complete absence of the perception of taste for sweet, sour, bitter, and salty substances. The temperature sense was intact, but the patient was unable to tell whether the hot or cold substance was a solid body or a fluid. The senses of touch and of pain perception were unaffected. From a study of this case the author came to the conclusion, as opposed to the opinion of Carl and Wolf, that the chorda tympani contained all the fibres of taste perception for the anterior two-thirds of the tongue.—*Centralblatt für klinische Medicin*, April 3, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 22, 1886.

"INFLUENCE OF SEX IN DISEASE."[1]

IN bearing the burden of disease under which humanity groans, the members of one sex oftentimes think that they have more of it than the other. Mr. W. Rogers Williams, the Surgical Registrar to the Middlesex Hospital, gives us a view of how matters stand in England in this respect. He bases this upon an analysis made of hospital cases, which consisted of 32,509 males and 28,175 females, and the mortality returns derived from the Registrar-General's reports for twenty-five years, from 1848 to 1872, which includes the enormous number of 5,419,865 males and 5,082,281 females. With this vast mass of humanity to deal with, one can believe that conclusions might be arrived at which would command respect.

As a general thing women think they fall heir to more of the ills of the flesh than men. They will feel more cheerful, since misery likes company, when they learn that "men are more than twice as subject to carbuncles as women." Perhaps it is for this reason that as a popular standard of measurement for pain "the boil" has been taken, and we have the proverbial statement "as sore as a boil." It is doubtful if there has been a thorough realization of how appropriate to his sex was the disease from which Job suffered so much.

Our writer, contrary to what has been adduced by other less careful investigators of the subject, shows that men are more liable to small-pox, measles, scarlet fever, and febricula.

Typhoid fever attacks both sexes alike, but women die more frequently than men, while the reverse is true of typhus.

Diphtheria, whooping-cough, and influenza are decidedly more frequent in women than in men, while men in their turn suffer more from gout. In fact, gout is almost entirely a masculine disease. We are told that in the degenerate days of the Roman Empire this was not so, for women then rivalled the men in all kinds of intemperance. Women need to take warning, since gout is increasing among them.

Men are more liable to tetanus and hydrophobia—five times as liable as women—and also more liable to locomotor ataxy. Both have an equal tendency to epilepsy, while chorea, insanity, and hystero-epilepsy are more often feminine than masculine. One sees a growing tendency to credit men with some hysteria. The unfortunate name of this disease has prevented a proper understanding of its distribution among the sexes.

Briquet, in 1,000 cases, makes the proportion of 1 male to 29 females affected by it, while our author gives the ratio as 1 to 16.

The universal fear of cancer which haunts women is not without foundation, for they are twice as liable to these neoplasms as men, and are much more prone to growths which are benignant.

[1] The Influence of Sex in Disease. By W. Rogers Williams, F.R.C.S. Published by J. & A. Churchill. London, 1885.

A NEW ERA IN MICROSCOPICAL WORK.

UNDER this head Dr. Frank L. James, a St. Louis microscopist of high standing, describes (*St. Louis Medical and Surgical Journal*) the new optical glass discovered by Abbé and manufactured by Zeiss. Dr. Van Heurck, of Anvers, communicates to the *Journal de Micrographie* the results of his trials with the new lenses. He says:

"The objective is homogeneous immersion, of a foca distance of 3 mm., or about one-eighth inch English measurement. It is not arranged for cover-glass correction, as this is not necessary, that function being attained by means of the sliding tube of the body. It contains five lenses, and has a numerical aperture of 1.4, which is a trifle less than has been obtained in England and America (1.5); but so far as its optical qualities are concerned it is far superior to anything ever before made, the new glass permitting the absolute correction of all aberrations. The field is perfectly flat, the minutest object in the extreme edge of the field showing as sharply and clearly as though it were in the exact centre. With the vertical illuminator an amphipleura (silvered) is resolved into pearls—not merely in spots, but over the entire frustule, and with such clearness that these pearls can be counted. In the study of other diatoms I have found details which have hitherto escaped notice. As to the bacteria, details of structure are shown that have never before been seen—details that will without doubt serve to differentiate them by ocular means. Accompanying the objective are three eye-pieces, two for direct use and one for photography. They are also made of the new glass and by entirely new optical formulæ."

Dr. James does not appear to have used or seen these new objectives, but he is confident of their great utility. We should judge from descriptions so far given that the great advantage secured by the new lenses is through the eye-pieces, which enlarge the image without causing a loss in definition or illumination.

A NEW DIAGNOSTIC TEST FOR TYPHOID FEVER.

STATISTICS regarding the therapeutics of typhoid fever are almost always seriously vitiated by doubts as to diagnosis. This is more especially the case with the alleged abortions of typhoid. It is very desirable, therefore, to have some definite test of the presence or absence of the disease in its early stages. The temperature curve is known to be often far from typical, the roseola does not appear, if at all, until from seven to twelve days; there are, in fine, no pathognomonic symptoms in the earlier stage of the disease.

Several observers have recently tried to establish a

method of making the typhoid bacillus of Eberth a means of positive diagnosis. This bacillus is now quite generally conceded to be a constant accompaniment of the disease in question, and of no other.

Attempts to find this bacillus in the blood have not been very successful, although Neuhaus (*Berlin. klin. Wochen.*, 1886, No. 6) observed them in blood taken from incisions made near the roseola spots. M. Bouchard has also found the bacillus in the urine. Recently Philopowicz (*Wien. med. Blatt*, 1886, Nos. 6 and 7) (*L'Union Médicale*) has communicated the results of his personal experience in the examination of blood drawn from the spleen of typhoid patients. Having washed the skin with a solution of bichloride, 1 to 1,000, he inserted the needle of a hypodermic syringe, previously sterilized, between the ninth and tenth ribs, and withdrew some of the splenic blood and juice. In this he was able to recognize the bacilli of Eberth, and produced cultivations showing their specific character. All this was done in four patients, before the appearance of any roseola. There does not seem to be any great inherent difficulty in using this method of testing the nature of a suspected fever, provided, of course, that subsequent experience confirms the results of Philopowicz. Such a method cannot be made a routine one, but in hospitals it may be frequently used, and by it perhaps the much-disputed question as to whether typhoid fever is ever aborted can be settled.

In this connection we would call attention to the daring experiments of M. Payon (*L'Union Médicale*, No. 115, 1885), who inoculated pure and attenuated cultures of the typhoid bacillus upon himself and five other persons, without producing any definite symptoms of typhoid fever as it occurs in man.

THE IRRIGATION TREATMENT OF CATARRHAL JAUNDICE.

A RECENT number of one of the Berlin journals reports the revival of this method of treatment, originally proposed by Krull in 1877. He reported a series of eleven cases, and Loewenthal, who has lately reintroduced the plan, reports forty-one. The method is, in brief, the irrigation of the lower bowel by cold water once in twenty-four hours. It is claimed that the whole duration of the disease is shortened, that the gastro-hepatic symptoms speedily pass away, and that the headache soon ceases. The appetite very quickly becomes restored, and the patient is free from that peculiar lassitude so generally accompanying jaundice.

In the actual application of the method the following details are to be observed: For each injection one or two litres of water are to be used, with a temperature at first of about 12° C., and rising each day about 3° C. For children one single litre suffices. The average number of irrigations found necessary in the cases alluded to was four. In all an evacuation followed the first washing. In some diarrhœa ensued, but was checked by the subsequent washings at a higher temperature. By the third injection the passages generally have a yellow or brownish color. At the same time the yellow color fades from the skin and the bile-pigment leaves the urine.

The method has, at least, simplicity to recommend it, though it is hard to see just how it acts. As one of our exchanges suggests, the irrigation of the stomach (as suggested by Kussmaul and Senator for intestinal strangulation) with plain or medicated water would doubtless be of value. It would, at least, act directly on the inflamed mucous membrane of the stomach, which suffers in severe forms of the disease.

MEDICAL LIBRARY OF THE BOSTON CITY HOSPITAL

THE WORTHLESSNESS OF QUININE IN CONTINUED FEVER.

NOT often does a prophet and a poet arise among us able to denounce our errors with rugged, Baptistic vigor, and to set our faces again toward the sunlight of medical truth. Such a prophet, however, has spoken in the Moberly District Medical Society, of Missouri, and his words come to us through the happy agency of the Keytesville *Democratic Print*. Dr. George M. Dewey therein portrays "The Utter Worthlessness of Sulphate of Quinine in the Treatment of Typhoid Fever," and that "bastard malady, born on the banks of the Chickahominy, whose untimely end is near at hand."

We have spoken lightly, but wish, in all sincerity, that everyone could read Dr. Dewey's paper. It is not only logical, forcible, and sensible, but it is poetical and interesting—a rare combination from a doctor's pen. Dr. Dewey advances the view, first, that quinine is given too much:

"To-day sulphate of quinine is a therapeutic despot whose autocratic sway few have the courage to dispute. At some time, in some stage of every malady, most doctors fancy they find an indication, an excuse, for giving quinine. In high fever it will pull down; in low fever it will push up.

> "No pulse so high, no pulse so low,
> But down one's neck the stuff must go."

Taking up the special subject of typhoid fever, Dr. Dewey says, "I know of no disease in which quinine can do so little good and as much harm as typhoid fever." "I hear a great deal about tissue waste from high fever. I doubt not that this is the tendency of long-continued high temperature. But the fact is, that a gallon of sweet milk will prevent more 'tissue waste' than an ounce of quinine."

The undue weight laid upon the symptom of fever since the introduction of the clinical thermometer is referred to:

"Utter neglect of temperature is far better for the patient than half-drachm doses of quinine. The quinine-druggers raise a great howl about 'tissue waste.' The fact is, tissue waste and exhaustion come from impaired digestion, and not from temperature. That quinine does this, is beyond question."

Dr. Dewey is exceedingly severe upon Dr. Hutchinson, the learned author of the article on typhoid fever in Pepper's "System of Medicine," who even in mild cases of this disease recommends the use of two or three grains of quinine four times a day.

"Now," says Dr. Dewey, "here is a man, supposed to be the Polar Star to guide American practitioners over the doubtful sea of medicine, writes down in a book (who dares dispute what he sees written in a book?) directions for giving quinine every three or four hours to a patient

with typhoid fever, whom the veriest tyro knows needs nothing but good diet.

"The patient he describes is a good one to have. A good one to get up a reputation on—one who has no diarrhœa, no delirium, no tremors, temperature of 102.°

"A clear hundred per cent. of such cases ought to recover. Why would any thinking man give such a patient quinine? He says he was *accustomed* and in the *habit* of doing this way. This is at the bottom of such nonsensical practice.

"A doctor who contributes a hundred pages to a book to guide American practitioners ought to give some better reason than *custom* and *habit* for giving medicine.

"The doctors from the land of flowers and gunpowder tea give medicine for the same scientific reason this author does—from habit, custom, tradition. Dr. I. Hun Su, of Pekin, China, treats uncomplicated typhoid fever very successfully with the following prescription:

"℞ Three inches dried umbilical cord,
One dried snake-skin,
One fresh tom-cat's head.

"Mix. Boil in five pints of water for two hours and strain. Sig.—Tablespoonful every four hours.

"This prescription would be far less apt to disorder the stomach and nervous system than quinine, besides being tonic."

Dr. Dewey next pays his respects to typho-malarial fever so called. If his words are not gospel, they are very near to it, and we shall only do justice to them and to our readers by quoting in full:

"During the late war the Yankees invented a new disease that howls and cries aloud for quinine. This bastard was baptized and christened 'Typho-Malarial Fever;' though Dr. Woodward abandoned his bantling in disgust, every malarial maniac in the land is clamorous for its life.

"Throughout the land the asses bray
The horrors of malaria.

"I believe no one claims to have any typical pathological lesions of typho-malarial fever differing from typhoid fever.

"In our last State meeting, Dr. Van Emon gave the histories of fifteen post-mortems of deaths from the so-called typho-malarial fever. In every one the characteristic lesions of typhoid fever were found. If the prefix—the tail, the malarial end—of this disease could be amputated, quinine would get its quietus from a good many doctors who only prescribe it on account of this caudal appendage.

"Some men are very contentious about characteristic symptoms of typhoid fever. Pathology ought to settle it. If a patient has a continued fever, and any one symptom known to occur in what they call a typical case of typhoid fever is absent, this is a case of 'typho-malaria.' Should a case fail to have diarrhœa, or delirium, or tremors, or petechiæ, or tympanitis, or headache, or insomnia, or stupor, bronchitis, or hemorrhage, then it would be typho-malarial fever, and absolutely require quinine.

"Hybrid diseases exist only in the brain of fools. I believe no one claims to tell the sex in bacillas.

"Which is the Sire and which the Dam,
Seems quite beyond the ken of man.

"I am told by the believers in the hybrid theory that this fever often commences as a typho-malarial fever, and runs into or ends in typhoid fever. After malaria is killed by quinine typho lives on. Some men are bent on keeping this name alive to justify the treatment.

"Our forefathers fooled a long time with biliousness to justify calomel.

"Hepatic doctors now are seen no more,
The hunt for bile has long been given o'er,
Whoever would a reputation make,
Deserts the bile, the bugs to overtake.

"Whether one believes or disbelieves in typho-malarial fever is unimportant—quinine is a deleterious drug in either."

Dr. Dewey is the St. George of the dragon quinine. We are inclined to think that in time he will succeed as thoroughly as did the legendary hero.

We have long contended against the routine use of quinine, or in fact any antipyretics in the continued fevers, and we trust that the echoes of the voice from Missouri may rumble about the world, to the perpetual benefit of febrile humanity.

A FRENCH CRITIC ON MYOPIA.

M. Francesque Sarcey, the well-known French critic, has written a little work[1] which is well worth the perusal of physicians, by virtue of its charming style, and the freshness and force with which he describes the course and the dangers of myopia.

M. Sarcey's book is an autobiography of himself just so far as it relates to his eyes. He begins: "I was born near-sighted, dreadfully near-sighted. Many physicians," he continues, "assert that persons are never born near-sighted, but only become so." We believe that ophthalmologists teach that an hereditary predisposition to myopia is very common indeed, but that congenital myopia is very rare. "However," says M. Sarcey, "Science may think what she pleases, but I was born myopic."

The very day on which his infirmity was discovered is indelibly stamped on his memory, and his account of it is quite worth transcribing:

"One day, prompted by the spirit of mischief, I got hold of the big silver spectacles which my father always wore, and clapped them on.

"Fifty years have passed since then, but the sensation I experienced is keen and thrilling to this day. I gave a cry of astonishment and joy. Up to that moment I had seen the leafy dome above me only as a thick, green cloth, through which no ray of sunlight ever fell. Now, oh, wonder and delight! I saw that in this dome were many little brilliant chinks; that it was made of myriad separate and distinct leaves through whose interstices the sunshine sifted, imparting to their greenery a thousand tones of light and shade. But what amazed me most, what so enchanted me that I cannot speak of it to this day without emotion, was that I saw suddenly between

[1] Mind Your Eyes! Good Advice from a Near-sighted Man to his Fellow-sufferers. Translated (with the author's permission) from the French of Francesque Sarcey, by Henry Dickson Bruns, M.D. New Orleans: New Orleans Medical Publishing Co. 1886.

the leaves, and far, far away beyond them little glimpses of the bright, blue sky. I clapped my hands in ecstasy, I was mad with astonishment and delight."

Very high myopia like Sarcey's is rare, but moderate degrees of myopia are very common; and myopia, as Sarcey states, is increasing and spreading through Europe like some epidemic disease. Among the ancients myopia appears to have been practically unknown. As evidence of this M. Sarcey refers to the ancient amphitheatres in which thirty thousand spectators sat and viewed the games without a glass. Perhaps, to be sure, the myopes of those days might have learned to stay at home. However, that myopia is increasing there can be no doubt. In fifteen years the proportion of undoubted myopes in the Polytechnic School of France has risen from thirty to fifty per cent., and eighty per cent. of the students have to wear glasses.

M. Sarcey urges his readers with profound emphasis to remember that myopia always has a tendency to increase unless numberless precautions are taken, and that all myopic eyes are weak eyes to be looked after carefully by their possessor. In his own case the result of over-use and misuse of his eyes, especially his attempts to get along without glasses, were that he lost the sight of one eye entirely through detachment of the retina, and that a cataract developed in the other.

The loss of the eye he attributes to the effects of studying when a boy in a badly lighted school-room, and he invokes all mothers to examine the school-rooms. "If they be not fairly flooded with light take your son home again. To leave him bent for ten years over dimly lighted books, is, if he has the least tendency to this trouble, almost certainly to lay up myopia for his manhood; if he be already myopic, it is to assure him a blind old age."

Sarcey's description of the development of his cataract and of its removal is vivid and dramatic. The operation was successful, and he now sees distant objects even better than before. The epilogue to his story is: "Remember that all extreme myopia ends almost infallibly in cataract, and that nearly all myopia may become extreme if the eyes are abused."

While Sarcey's views are somewhat tinctured by the bitterness of his personal experience, his warnings are wise and timely, and should be widely read.

Some Instructive Percentages.—Dr. John H. Rauch, in his last quarterly report to the Illinois State Board of Health, says that although a reduction in the percentage of graduates over matriculates has taken place in some medical schools, it has not in all. Last year the percentages of graduates to matriculates rose as high in individual cases as 52 for regular, 57.7 for homœopathic, and 58.3 for eclectic colleges—the averages of all schools being 33.3 for regular, 32.6 for homœopathic, and 33.9 for eclectic, and the minimum 10.5, 17.6, and 15, respectively.

An American Physician Honored.—At the recent meeting of the German Congress of Internal Medicine, Dr. L. Weber, of New York, was admitted to membership in that distinguished body. It is the first time that this honor has been bestowed upon an American physician.

News of the Week.

Bequests to the New York Academy of Medicine.—It is stated that the New York Academy of Medicine has received two bequests, one of $70,000 and one of $5,000.

Canadian Medical Association.—The Nineteenth Annual Meeting of the Canadian Medical Association will be held in the city of Quebec on Wednesday and Thursday, August 18th and 19th next.

A New Instrument for Measuring the Acuteness of Hearing.—M. d'Arsonval showed to the Biological Society an apparatus for measuring auditory acuteness, or an acoumeter. This apparatus differs from other similar instruments. It is simple, and it indicates directly the proportional intensity of sound. It is composed of a sound-producer, consisting of a small tuning-fork giving the normal *la* (870 vibrations), kept at work by an electro-magnet placed according to the disposition adopted by M. Mircadier. A single-element Leclanché's battery is sufficient to keep it in function. A telephone is placed in communication with the two ends of the thread forming the coil of the electro-magnet. The telephone is thus traversed by the extra interrupted current (*extra courant de rupture*) at each vibration of the tuning fork. The tension of this extra current is much greater than that of the battery, and causes the telephone to vibrate intensely in union with the tuning-fork. In order to lessen the intensity of the sound in the telephone, it is necessary to pass a current along a glass tube full of water, by plunging a metallic stem into the water. The length of the column of water traversed by the current is increased until the intensity of the sound is reduced to its minimum, and is scarcely perceptible. The strength of the extra current, and consequently the intensity of the sound, is in inverse proportion to the length of the graduator, which lessens the sound. The length of the column of water gives the degree of the auditory sense tested.

Schmidt's Jahrbücher.—Professor Winter, who has so long and successfully edited this most valuable publication, has retired, and his place is filled by Drs. P. Möbius and Dippe, of Leipsic. Both gentlemen are well known as most able and painstaking literary and scientific workers.

An Italian Surgical Congress has just been successfully held at Rome. Among the contributions was one by Professor Ceci, recounting the history of a successful splenectomy in which the spleen was one-fifteenth of the body weight.

The Usefulness of Spaying.—The London *Hospital Gazette*, quoting our editorial upon the above subject, adds: "It is possible that on first perusing the above our readers may not wholly grasp the spirit of the writer. For their enlightenment, however, we would desire to explain that our American *confrère* very successfully combines, on suitable occasions, the offices of satirist and ethical reformer."

The Kansas State Medical Society held its annual meeting, during the past week, at Atchison.

OFFICERS OF THE INTERNATIONAL MEDICAL CONGRESS.—*President*—N. S. Davis, of Chicago.

Vice-Presidents—W. O. Baldwin, of Montgomery, Ala.; William Brodie, of Detroit; W. W. Dawson, of Cincinnati; E. M. Moore, of Rochester, N. Y.; T. G. Richardson, of New Orleans; L. A. Sayre, of New York; J. M. Toner, of Washington; J. A. Grant, of Ottawa, Canada; the President of the American Medical Association; the Surgeon-General United States Army; Surgeon-General United States Navy; Supervising General Marine Hospital Service.

Secretary-General—J. B. Hamilton, U. S. Marine Hospital Service.

Treasurer—E. S. F. Arnold, of New York.

Chairman Finance Committee—Frederick S. Dennis, of New York.

Presidents of Sections:

Medicine—A. B. Arnold, of Baltimore.

Surgery—William T. Briggs, of Nashville.

Military and Naval Surgery—H. H. Smith, of Philadelphia.

Obstetrics—Delaskie Miller, of Chicago.

Gynecology—James H. Harrison, of University of Virginia.

Anatomy—William H. Pancoast, of Philadelphia.

Physiology—J. H. Callender, of Nashville.

Pathology—A. B. Palmer, of Ann Arbor.

Diseases of Children—J. Lewis Smith, of New York.

Ophthalmology—E. Williams, of Cincinnati.

Otology—S. J. Jones, of Chicago.

Laryngology—W. H. Daly, of Pittsburg.

Dermatology and Syphilis—A. R. Robinson, of New York.

Hygiene—Joseph Jones, of New Orleans.

Collective Investigation, etc.—A. L. Guyon.

Nervous Diseases—John P. Gray, of Utica.

Dental and Oral Surgery—J. Taft, of Cincinnati.

New York is thus represented by Drs. J. Lewis Smith and A. R. Robinson; Philadelphia, by Drs. H. H. Smith and W. H. Pancoast; and Boston by no one.

DR. HOLMES ADVISES DOCTORS TO TAKE A VACATION.—Instead of a vacation editorial, which would naturally be looked for by our readers with eager interest at about this time, we venture to substitute a little verse from Dr. Holmes' poem, "City and Country":

> Ye healers of men, for a moment decline
> Your feats in the rhubarb and ipecac line;
> While you shut up your turnpike, your neighbors can go
> The old roundabout road to the regions below.

THE NEW YORK COLLEGE OF PHYSICIANS AND SURGEONS held its annual commencement on the evening of May 13th, when a class of ninety-seven was graduated. The Alumni Association prize of $500, for an essay showing original research, was awarded to Dr. William G. Thompson, for an essay on "The Application of Instantaneous Photography to the Study of Physiology and Therapeutics." The Joseph Mather Smith prize of $100, open to all Alumni, went to the same doctor for another essay. The Harsen prizes for clinical reports were distributed as follows: First, Charles W. Wolfertz; second, A. M. Fanning, Jr.; third, divided between H. Jarecky and J. L. Corish. The address to the graduates was delivered by General Horace Porter.

RECEPTION TO THE FACULTY OF THE POST-GRADUATE MEDICAL SCHOOL.—Professor William A. Hammond gave a reception to the Faculty of the Post-Graduate School and a few other gentlemen of the city, at his residence on Saturday last. It was numerously attended, and was a brilliant and enjoyable affair.

THE KANSAS CITY MEDICAL RECORD has had a suit for $40,000 brought against it for publishing a certain editorial. Our contemporary is confident that he will pass over no such sum to the plaintiff.

THE EXTRACT OF BELLADONNA.—According to Mr Wyndham Dunstan, the alcoholic extracts of belladonna root range in alkaloidal strength from 1.65 to 4.45. This is due mainly to the different ways in which the extract is obtained.

THE ONE HUNDRED AND TWENTIETH ANNUAL MEETING OF THE MEDICAL SOCIETY OF NEW JERSEY will be held at the Sea-Girt House, Spring Lake, on June 8th and 9th.

OREGON STATE MEDICAL SOCIETY.—The Thirteenth Annual Meeting of the Oregon State Medical Society will be held at Portland, Tuesday, Wednesday, and Thursday, June 8, 9, and 10, 1886.

THE MEMBERS OF THE OHIO STATE BOARD OF HEALTH have been appointed. They consist of Messrs. H. J. Sharp, T. C. Hooper, D. H. Beckwith, S. P. Wise, J. D. Jones, T. C. Miller, and W. H. Cretcher. There is one homœopath on the board. There are to be two meetings held annually. Five thousand dollars have been appropriated to meet its expenses.

ONTARIO MEDICAL ASSOCIATION.—The sixth annual meeting of the Ontario Medical Association will be held in Toronto, June 2 and 3, 1886.

MAINE MEDICAL ASSOCIATION.—The thirty-fourth annual meeting will be held in Portland, Me., Tuesday, Wednesday, and Thursday, June 1, 2, and 3, 1886.

A GIFT TO THE UNIVERSITY MEDICAL COLLEGE.—The New York University Medical College has just received a gift of $100,000 for the construction and maintenance of a laboratory building, to be known as the Loomis Laboratory. The gentleman who has made the gift wishes that for the present his name should not be made public. Land adjoining the property of the college has already been purchased, and it is hoped that the new building will be ready for occupation next year.

ACTINOMYCOSIS IN THE HUMAN SUBJECT.—An example of this interesting and rare disease is reported to have been met with at the Montreal General Hospital recently. The patient, a young female adult, was thought to have died of phthisis, but the investigations of the pathologist revealed the true nature of the malady. This case is of special interest, as few, if any, authenticated cases have been as yet recorded in America. It is down for consideration at the next meeting of the Medico-Chirurgical Society.

REPLACEMENT OF LOST EYES.—The replacement of a diseased eye by the healthy eye of an animal has now been done five times, with one success. In all the cases but this one (Bradford's) the cornea sloughed. In two cases, however firm vascular adhesions took place.

Dr. D. B. St. John Roosa has been elected a Corresponding Fellow of the Academy of Medical Sciences (*Real Academia de Ciencias Medicas, Fisicas y Naturales*) in Havana, and his work upon the Ear has received a full and complimentary notice in the Journal of the Academy.

M. Pasteur and Miss Morosini.—The Paris correspondent of *The Lancet* writes: "I have had an opportunity of revisiting M. Pasteur's laboratory in the Rue d'Ulm, under the following circumstances: A young lady, a daughter of Mr. Morosini, the well-known banker of New York, who was said to have been bitten by a mad dog, was brought to Paris to undergo M. Pasteur's anti-rabic treatment. The young lady was accompanied by her parents and by Dr. Bulkley, the celebrated dermatologist of New York, who asked me to introduce him to M. Pasteur. This I gladly consented to do, and on Monday morning, the 3d inst., the day after their arrival in Paris, the young lady was inoculated with the anti-rabic fluid. But before the operation was performed M. Pasteur, as is his wont, inquired particularly into the circumstances of the case. Dr. Bulkley furnished the necessary information and produced a certificate from a well-known veterinary surgeon testifying to the dog having been really affected with rabies. The young lady was bitten on April 14th, on the space between the root of the nose and the inner angle of the right eye, which was soon after freely cauterized with the nitrate of silver by Dr. Bulkley. Nineteen days had therefore elapsed between the accident and the inoculation. During my visit at the laboratory it struck me that the hydrophobia scare had not lessened, for the place was crowded with applicants from all parts of the world. M. Pasteur is as zealous as ever, and I learn that the Emperor of Brazil has conferred on the eminent biologist the Order of the Rose."

Fixing a Standard of Medical Education.—At the last quarterly meeting of the Illinois State Board of Health, April 15th and 16th, the following resolution was passed:

"*Whereas*, The continuous graduation of forty-five (45) per cent. of the total number of matriculates of a medical college—due allowance being made for the average annual loss—must be accepted as prima facie evidence that, practically, every candidate is graduated without regard to competency or qualification; therefore be it

"*Resolved*, That no medical college be recognized as in good standing within the meaning and intent of the Act to Regulate the Practice of Medicine in the State of Illinois, the aggregate graduates of which college amount to forty-five (45) per cent. of its aggregate matriculates during the period of five (5) years ending with any session subsequent to the session of 1885–86."

A Medical College Below the Mark.—The Illinois State Board of Health has recently resolved, "That in view of the apparently irregular manner in which diplomas have been conferred by the Beach Medical Institute of Indianapolis, this Board declines for the present to receive the diplomas of that institution as the basis for certificates authorizing practice in the State of Illinois."

The Nashville Academy of Medicine and Surgery is the title of a new medical society recently organized in Nashville, Tenn.

The Eastern Medical Journal has become a monthly, and adopts regular medicine, abandoning its previous somewhat indefinite "eclecticism." It is now under the editorial charge of Dr. C. E. Nelson, of this city.

Reports of Societies.

ILLINOIS STATE MEDICAL SOCIETY.

Held at Bloomington, Ill., May 18, 19, and 20, 1886.

(By Telegraph to The Medical Record.)

The Annual Meeting of the Illinois State Medical Society convened at Washingtonian Hall, Bloomington, May 18, 1886, and was called to order by the President, Dr. William A. Byrd, of Quincy.

The meeting was opened with prayer by the Rev. A. W. Bennett, D.D., of Bloomington.

After brief addresses of welcome The President delivered his annual address, in which he emphasized the advantages of medical society organizations in bringing individual members to a better understanding of their social and scientific wants, and concluded by urging the adoption of a plan for more representative membership throughout the State. The more prompt publication of the proceedings was also recommended, and in that connection the suggestion was offered that some medical journal or organ for the Society be selected for the purpose.

Dr. J. L. White, of Bloomington, read a paper on some recent cases of

CEREBRO-SPINAL MENINGITIS

as the

REPORT ON PRACTICE OF MEDICINE.

These were typical in character, and formed the foundation for some remarks regarding the general character of the disease.

In reference to treatment, the writer of the paper used quinine, but for direct effect upon the membranes of the brain and spinal cord, he believed in ergot. It had been said that opium and alcohol were always contraindicated, but he had found in his cases that the amount of these remedies tolerated by the patient was astonishing, and he believed, as a rule, that in diseases where certain remedies were tolerated in immediately large doses, these remedies were indicated, as there was no disease in which the nerves of the eye and ear were so sensitive. The usual precautions should be taken as regards the behavior of nurses, attendants, the darkening of the room, etc.

Dr. Cullom, of Jacksonville, stated that in his locality, and with the belief that the disease was of germ origin, he had recently given internally the sulph. carbolate of sodium in sixteen-grain doses, every two hours, with apparent benefit.

Dr. Whitinger, of Matamora, had been through an epidemic of the disease, and his experience was very similar to that of the author of the paper. He thought he had good results by evacuating the bowels, steaming with the hot pack, and giving ergot and bromide of potassium.

Dr. Barnes, of Bloomington, had been through an epidemic and lost nearly every case, until he finally did nothing but give bromide of potassium, and his cases got well.

Drs. Walter Hay, of Chicago, Worrell, of Bloomington, C. M. Noble, Goodell, and others took part in the discussion.

Dr. Truesdale, of Rock Island, read

THE REPORT ON SURGERY.

He thought that as an antiseptic carbolic acid stood at the head of the list; further, it was an excellent local anæsthetic, and it was the most efficient capillary hæmostatic in the surgical world. Its most important place, however, was in

MYOFIBROMATA OF THE UTERUS.

He had treated a case of this kind, injecting about a drachm of a six per cent. solution by an aspirating needle right through the abdominal wall into the tumor, and repeated the same operation every few days. The patient improved in every respect, the tumor gradually decreasing in size. Several other similar cases were reported as being treated in a like manner and gradually improved in every respect. All the cases had done well, causing no bad after-effects. He next spoke of

THE TREATMENT OF CARBUNCLE

by the same remedy. He believed this malady to be a purely local disease in the true skin. In treating this affection he injects a hypodermatic syringeful of a six-per-cent. solution of carbolic acid into the centre of the tumor. The advantage of this strength of solution over one of nearly full strength is that it will never produce a slough, which the strong solution will certainly sometimes do.

Dr. Goodell had had several cases, and they were treated by nearly all remedies except the one suggested, and they had all died. Hereafter he would try the carbolic acid.

THE REPORT ON OBSTETRICS

was made by Dr. Ellen A. Ingersoll, of Canton, and consisted of several complicated labor cases.

Dr. Park, of Bloomington, commenced a paper by an interrogation as to

HOW LONG A FŒTUS COULD LIVE AFTER A RUPTURE OF THE MEMBRANES AND EXPULSION OF THE LIQUOR AMNII, AND COULD THE MEMBRANES BE REUNITED BY NATURE AFTER RUPTURE?

He then cited cases wherein there had been a discharge of liquor amnii or other fluid for some time previous to confinement. It was necessary, first, in answering the above interrogations to know whether there was rupture of all the membranes or only of the amnion, leaving the chorion intact. Next, it might be possible that the rupture was in the upper part of the membranes and only allowed of an overflow, as it were. He thought there must have been complete rupture and discharge in some of his cases, and therefore concluded as his belief that a child could live and flourish with complete rupture of membranes and discharge of the liquor amnii three months before delivery.

A paper was read by Dr. Catherine Miller, of Lincoln, who referred to

MENTHA PIPERITA AS A LOCAL ANÆSTHETIC.

She did not, however, wish to put it on a par with the popular local anæsthetic, cocaine. She uses it largely in burns, and reported cases in point. She had used it also in chilblains with equal success.

Dr. Tilley had used the remedy with great benefit in one-per-cent. proportion with vaseline in coryza.

THE REPORT ON DERMATOLOGY

was then read by Dr. Henry J. Reynolds, of Chicago.

In his remarks on

ACNE

he spoke of the procedure recently proposed by Dr. Shewell, of Brooklyn, for that disease, viz., the passing of sounds in the male urethra, and cited the cases more recently reported by Dr. Denslow, of St. Paul, of the beneficial result of this supplementary measure in the treatment of acne. For the deep or indurated form of this disease he always lances those papular indurations deeply, and invariably found pus at the bottom, with a tendency to burrow still deeper, rather than to come to the surface. He then, to prevent the wound from healing over on the surface, which it is otherwise sure to do, and leave the miniature subcutaneous abscess to go on as before and remain indefinitely, passes a probe dipped in carbolic acid to the bottom, and fills the whole incision from bottom to top with a small piece of absorbent cotton, and leaves it to granulate from the bottom, which it will never fail to do, leaving only an almost invisible scar. He referred to a suggestion made by Dr. Fox, of New York, as to the possible, if not probable, cure of leprosy if the proper moral effect could be brought to bear on these patients, stating that the moral effect was usually depressing in the extreme, banished as they usually are from society, and imprisoned for life, as it were, with only the promise of a most miserable existence and a lingering death. He alluded to the pigmentary syphilide, and to a case reported by Dr. R. W. Taylor, of New York, and one by himself, of this condition. He next referred to the treatment suggested by Dr. Bulkley for carbuncle without incising and poulticing, viz., ointment containing ergot and oxide of zinc locally, and sulphide of calcium and a saline laxative with iron internally. He also spoke of the treatment so highly recommended by Dr. Hibberd, of Richmond, Ind., of applying, with friction, every three hours, oleate of morphia. He then, in speaking of urticaria, said that Jassar claimed to have reduced the frequency and cut short the duration of violent attacks of this disease by giving twenty-four-grain doses of salicylate of sodium, repeated every two hours, until three doses had been taken.

Brief reference was then made to the use of

COCAINE IN DERMATOLOGICAL PRACTICE.

He had found it to be of some service to allay itching in certain cases of eczema and in pruritus, and in strong solution. He had used it to relieve the pain incidental to the removal of superfluous hair by electrolysis, but the remedy was not sufficiently absorbed by the skin, as a rule, to be very beneficial.

Dr. Tilley had used the actual cautery, with a very small wire passed down to the bottom of the acne pustule, which seemed to work admirably. He had always found pus in the bottom of these indurated lesions.

THE REPORT ON PHYSIOLOGY

was made by Dr. Wetmore, of Waterloo, on "Herditament."

It was discussed at some length by Dr. J. J. M. Augear, of Chicago.

Dr. Tilley, of Chicago, in his

REPORT ON OPHTHALMOLOGY AND OTOLOGY,

summarized the observations of Dr. H. Schick, in his study of the interchange of fluids in the eye of the rabbit, by the use of the hypodermatic injection of uranine solution, with special reference to the regeneration in the aqueous humor. In reviewing the work of Dr. Stgermann, of Petersburg, it appeared that without exception

THE HUMAN EYE AT BIRTH IS HIGHLY HYPERMETROPIC.

The average of the degree of hypermetropia during the first month gives a hypermetropia of 5, 37 D., and during the second month of life H. 3, 30 D. One practical point came out in the report, viz., that infants are very indifferent to the influence of atropia when applied to the conjunctiva. The report embraced an extensive reference to the works of D. W. Einthoven on the peculiar phenomenon of a simultaneous observation of two colors red and blue—on a dark background, on actual cautery in its application to the eye; precautions in cocaine, and the result of section of the chorda tympani in scraping out granulations in the ear.

(To be continued.)

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

Third Annual Session, held at the Hall of the College of Physicians, Philadelphia, Pa., May 10 and 11, 1886.

THE meeting was called to order at 3 o'clock, P.M., by the President, WILLIAM PEPPER, M.D., LL.D., of Philadelphia.

The President opened the session with an address on "The Causes and Distribution of Consumption in Pennsylvania."

DR. A. L. LOOMIS, of New York, read a paper on

THE EFFECT OF HIGH ALTITUDES ON CARDIAC DISEASE,

in which he gave his experience in twenty-six cases, several of which were described.

In the summer of 1880, while at St. Regis Lake, in the Adirondacks, the author was requested to see a gentleman who had just arrived, and was thought to be dying. The patient, forty years of age, was found gasping for breath, cyanosed, with no apparent radial pulse, and bathed with profuse perspiration. Neither heart-sound could be heard. Under the hypodermatic use of digitalis, morphia, and brandy he improved. The following day it was learned that he had left New York apparently perfectly well. When he reached an elevation of one thousand feet the breathing became difficult, and as a higher altitude was reached the difficulty was increased, and was accompanied by cardiac palpitation and a sense of oppression in the epigastrium. When he reached St. Regis Lake, at an elevation of two thousand feet, he appeared to be dying. Physical examination showed well-marked dilatation of both ventricles, with a loud systolic murmur heard over the præcordia and transmitted a little to the left. At the end of three days he returned to New York. As he reached lower levels the difficulty of breathing diminished, and when he reached the level he could walk on it. The irregular heart action, however, continued, and the feet soon became œdematous, and he died six weeks later with general anasarca and heart insufficiency. No autopsy was made. The patient had never presented any evidence of cardiac disease prior to his trip to the mountains.

Mrs. S——, forty-three years of age, had mitral insufficiency for over ten years, but never exhibited any cardiac symptoms. She went to Colorado. When she reached an elevation of four thousand feet she was suddenly seized with extreme dyspnœa and pulmonary hemorrhage. There was palpitation of the heart and constriction of the chest. The following day she started on her return. As she reached a lower level she improved. Physical examination revealed extreme dilatation of both ventricles, complete cardiac diastolism, indistinct apex-beat, crepitation over the base of both lungs, with feeble or absent respiratory murmur. The patient died four weeks after her return. The autopsy showed both ventricles much dilated, old thickening and insufficiency of the mitral valve, some interstitial myocarditis and degeneration of the muscular fibre of the heart-walls. The right lung was the seat of pneumonia and old infarctions. All the other viscera were in a state of extreme venous congestion.

B——, aged forty-six, with aortic insufficiency, and moderate eccentric hypertrophy, visited the Catskill Mountains. After a walk was seized with great difficulty of breathing, cyanosis, and unconsciousness. The next day he was somewhat relieved. He returned to his home three days later; œdema of the feet supervened, albumen and casts were found in the urine, and the patient died three weeks later. At the autopsy both ventricles were dilated, the walls of the left side were hypertrophied, the aortic valves were thickened and contracted, the heart-walls were the seat of chronic interstitial myocarditis; the kidneys were cirrhotic and the lungs congested and œdematous.

The last case reported was that of Mrs. T——, aged fifty. She had always been well, with the exception of an attack of rheumatism ten years previously. Eighteen months before she had had an attack of cardiac palpitation, which was relieved by the use of digitalis; she went to St. Regis Lake, and soon complained of epigastric oppression, palpitation, dyspnœa, and great prostration. Both ventricles were found dilated with a soft systolic murmur at the base. There was no marked cyanosis or œdema, the urine was scanty, but contained neither sugar nor albumen. Under digitalis and stimulants she improved, but in a few days the symptoms returned, vomiting came on, the pulse became more rapid and feeble, attacks of syncope occurred, and she died three weeks after the onset of the unfavorable symptoms. No autopsy could be obtained.

Dr. Loomis then went on to say that in all the cases coming under his observation the ventricular dilatation was unquestionably the cause of the sudden development of distressing symptoms, and that the commencement of the fatal issue seemed to be directly due to the effects on the cardiac circulation of a change from a lower to a higher altitude

The two important factors which lead to permanent cardiac insufficiency are, first, the condition of pulmonary distention consequent upon rarefaction of the atmosphere, and, second, the resultant condition of the circulating blood. In the first the terminations of the vagus are excited by the distention of the lungs; by the excitation of these afferent fibres, the cardiac walls and inhibitory ganglia of the medulla are paralyzed or weakened. The inhibitory control being lost, the diastolic intervals shorten and the rhythm is increased, but the amount of work accomplished is not proportionate to the visible cardiac energy. The change in the blood which acts as an important and ultimately the principal factor in producing the cardiac insufficiency is the deficiency in oxygen. The vaso-motor centre, influenced by the want of oxygen in the blood-supply, excites a general contraction of the arterioles of the body, filling the veins and affording a large heart-supply while the arterial pressure rapidly rises as the peripheral resistance is increased. Ordinarily the heart would relieve itself by excitation of the cardio- and vaso-inhibitory centres, but these centres are held in abeyance by the condition of the blood circulating in the medulla. This increase in the intracardial pressure cannot continue, and sooner or later the heart passes into a state of diastolic relaxation which is the primary step of a condition of ventricular dilatation. It is not improbable that the blood, heavily laden with carbon dioxide, also acts as a disturbing factor of the normal action of the heart through this same afferent mechanism.

If the explanation of the effects of high altitude upon the cardiac circulation be accepted, the risks which one with even slight cardiac insufficiency runs by passing from a lower to a higher altitude is certainly very great, and if the insufficiency is extensive, such changes become immediately dangerous. It must be remembered that cardiac insufficiency may exist in those who give no evidence of it.

DR. FRANK DONALDSON, of Baltimore, read a paper entitled,

A PRELIMINARY ACCOUNT IN REGARD TO CIRCULATORY AND RESPIRATORY CHANGES OBSERVED IN ANIMALS PLACED IN THE PNEUMATIC CABINET.

The experiments had been performed by Professor H. N. Martin, of the Johns Hopkins University, and the writer. The animals employed were rabbits which had been chloralized. It was found:

1. When the animal is breathing air from outside of the cabinet, rarefaction of air within the cabinet causes a marked fall of general arterial pressure, but has no

influence on the pulse-rate. The fall of pressure lasts only a short time (ten or twenty seconds), and is often followed by a temporary rise above the normal.

2. This fall of systemic arterial pressure depends on two factors: greater flow of blood to the skin when the air around the animal is rarefied, and greater accumulation of blood in the lungs when they are distended.

3. Of these two factors, accumulation of blood in the lungs is the more effective, for if the animal breathes air from the cabinet, and not from the outside, rarefaction of the air within the cabinet, in this case accompanied by no special expansion of the thorax, has but a trivial effect in lowering arterial pressure.

4. When the animal is breathing external air, rarefaction of the air within the cabinet usually has no effect upon the respiratory rate nor upon the extent of individual respiratory acts, unless the fall of blood-pressure be considerable. If it be considerable, symptoms of anæmia of the medulla oblongata show themselves. In some cases there is more forcible dyspnœic breathing, and in some dyspnœic convulsions similar to those which occur when an animal is bled to death and due to the same cause, viz., deficient blood flowing through the respiratory centre.

5. The rapid recovery of general arterial pressure while the animal is still in a rarefied atmosphere, but breathing external air, is probably due to excitation of the vasomotor centre, which, as is well known, is excited whenever the blood-supply is defective.

6. The brain enclosed in a rigid box, which is practically unaffected by variations in the atmospheric pressure, has its circulation more disturbed in the pneumatic cabinet than any other organ with the exception of the lungs.

7. Compression of the air within the cabinet while the lungs are in communication with the external air, causes a considerable transient rise of blood-pressure. This is probably mainly due to the forcing of the blood from the cutaneous vessels, but there has not yet been sufficient time to thoroughly investigate this point.

8. Compression of air within the cabinet while the lungs are in communication with the external air, slows the pulse as the arterial pressure rises. This is probably due to excitation of the cardio-inhibitory centre by increased intracranial blood-pressure. Further experiments are, however, necessary before this can be positively stated.

9. In certain cases, when the air within the cabinet is rarefied and the animal is breathing external air, the respiratory movements cease altogether for several seconds. As to the cause of this physiological apnœa, we are not yet ready to form an opinion. It may be due to extra accumulation of air in the alveoli of the lung, or to distention of the lungs exciting those fibres of the pneumogastric which tend to check inspiration.

EVENING SESSION.

DR. H. F. WILLIAMS, of New York, read a paper—

A CLINICAL REPORT OF CASES TREATED BY PNEUMATIC DIFFERENTIATION.

With the assistance of Mr. Ketchum, the inventor of the apparatus, a demonstration of the working of the pneumatic cabinet was given.

The speaker then reported forty-five cases in addition to those previously reported in which he had used the cabinet as a method of treatment. Sixteen cases were reported in detail.

DR. VINCENT Y. BOWDITCH, of Boston, read a paper entitled

TEN MONTHS' EXPERIENCE WITH PNEUMATIC DIFFERENTIATION.

The speaker endeavored to give the clinical results of the treatment in twenty-seven cases since June 30, 1885. Pulmonary phthisis, in its tubercular and non-tubercular forms; bronchitis, in its acute and chronic forms, with and without emphysema or asthma, and retraction of the lung from long-standing pleuritic effusions were the diseases which he had treated in the pneumatic cabinet. His experience was such that although he had been unable to accomplish thus far such brilliant results as some others had claimed, yet he felt convinced of the very marked beneficial effect of the cabinet in many cases where other means had failed to give relief, and of its curative power in one case of incipient tubercular trouble, and he looked forward with hope to what may be done in the future with this new method of treatment.

DR. I. H. PLATT, of Brooklyn, N. Y., read a paper on

THE PHYSICS AND PHYSIOLOGICAL ACTION OF PNEUMATIC DIFFERENTIATION.

The effect of reduced air-pressure upon the periphery of the body is to increase the expansion of the thorax in inspiration and to diminish its contraction in expiration, consequently to increase the amount of residual air. By the increased pressure in the lung it will tend to exsanguinate them, and to raise the arterial blood-pressure in the general circulation.

Two of the claims put forward by Dr. Williams and Mr. Ketchum he believed to be unfounded. The first is that the effect of removing a slight degree of pressure from the periphery of the body is radically different from that of increasing the pressure of the air entering the lungs; the former acting as a vis a fronte, the latter as a vis a tergo. One of the most elementary principles of physics teaches that suction is not a force operating from in front, but is merely the removing the pressure from one side of a body and allowing the undiminished pressure to act upon the other side. It makes no difference whether pressure is taken from the outside of the thorax, or added to the inside; in either case it is the unbalanced pressure which causes the increased expansion. The other proposition which he combated was that the spray or vapor used in conjunction with the differential process can be carried further into the air-passages, or more thoroughly condensed upon them, than a spray or vapor could be under normal conditions. They cannot be carried so far, for the reason that the residual air is increased, and consequently the inspired air, which carries the vapor or spray, cannot penetrate so far. It is claimed that the vapor of medicinal substances is condensed in the lungs during the differential process by the compression consequent upon the commencement of the expiratory act. This is impossible, first, because compression only acts to condense a saturated vapor, and the air-passages cannot be saturated with the vapor of a medicinal substance, and secondly, because no greater compression is produced at the commencement of the expiration under the influence of differential pressure than under other circumstances. Such compression as does occur is due to the resistance offered by friction of the bronchial tubes and by the narrow opening of the glottis, and it is impossible that these should be affected by the differential pressure.

I believe that such benefit as results from the use of the cabinet is due mainly to the reduction of congestion in the lungs by the air-pressure within them and by the increased expansion and movement of the lungs favoring their greater action and modifying their nutrition.

TUESDAY, MAY 11TH—SECOND DAY—MORNING SESSION.

The First Vice-President, DR. FRANK DONALDSON, of Baltimore, in the absence of the President, occupied the Chair.

The report of the Committee on Health Resorts was received and ordered published in the "Transactions."

The first paper was by DR. ROLAND G. CURTIN, of Philadelphia, Pa., on

ROCKY MOUNTAIN FEVER.

The speaker, in the first place, referred to a communication received from Dr. D. G. Dougan, of Denver, Col., bearing upon this subject. The experience of Dr. Dougan had led him to regard all cases of mountain fever as belonging to one or another of the well-known already classified varieties. The cases, however, present variations from the usual course of the fevers to which we would assign them. Some of the cases are ephemeral in character and difficult of classification. The fever especially designated by the name mountain fever presents many features of typhoid fever. The following were some of the reasons for believing these cases to be an irregular or mild type of typhoid fever. Such cases are usually seen at the season of the year when typhoid fever is most prevalent; they occur most commonly under conditions favorable to the development of typhoid fever; not infrequently cases will present some characteristic feature of typhoid, leaving no doubt as to the diagnosis; in the high altitudes where mountain fever is said to occur a large proportion of the cases of undoubted typhoid pursue a remarkably mild course.

In 1868, Dr Curtin had seen in Wyoming Territory four cases which had been diagnosed as mountain fever. At some point in the disease all these cases had diarrhœa, and in one it was continuous. One of the patients died suddenly at the end of three weeks, but no autopsy was made. In one case there was a doubtful eruption. One of the cases had epistaxis in the beginning of the illness. Tympanites was more or less marked in all cases. Dr. Curtin considered these cases to be typhoid or typho-malarial in character. Sometimes the cases belonged, in all probability, to the class termed simple continued fever. The diagnosis of mountain fever was doubtless in large part the result of incompetency on the part of the observers, and the use of the term is continued largely as a result of fashion.

HOW THE THERAPEUTIC VALUE OF OUR MINERAL WATERS MAY BE INCREASED,

was the title of a paper by DR. C. C. RICE, of New York.

The following conclusions were advanced:

1. Physicians should make a careful analysis of our mineral springs.

2. The medicinal values of the waters should be tested by clinical investigation, and the conclusions published for the benefit of the profession.

3. If the waters are found to present marked merit, the physician should interest himself in developing the springs, improving the bath-houses, etc.

4. Physicians in sending patients to the springs should be more careful to select the proper water and should send with the patient the diagnosis and history of the condition, for the benefit of the physician at the baths.

5. The patient, while at the bath, should be under a more rigid medical discipline.

6. The social life of our watering-places should be reorganized.

The following papers describing the climates of various places were then read: "The Climate of Mexico," by Dr. Didama, of Syracuse; "The Southern Adirondacks," by Edward T. Bruen, M.D., of Philadelphia; "The Climate of El Paso, Tex.," by Dr. E. W. Schauffler, of Kansas City; "Southern Pine Park," a new health resort in North Carolina, by Dr. A. N. Bell.

AFTERNOON SESSION.

The following officers were elected:

President—Dr. Frank Donaldson, Baltimore.

First Vice-President—Dr. V. Y. Bowditch, Boston.

Second Vice-President—Dr. Roland G. Curtin, Philadelphia.

Secretary and Treasurer—Dr. J. B. Walker, Philadelphia.

Additional Member of Council—Dr. F. C. Shattuck, Boston.

Elected to Membership—Dr. F. Donaldson, Jr., Baltimore; Dr. G. R. Butler, Brooklyn; Dr. W. Matthews, U.S.A., and Dr. J. H. Musser, Philadelphia.

The following memorial was presented by Dr. J. Ewing Mears, secretary of a special committee of the American Surgical Association appointed to consider the proposition with reference to the establishment of a Congress of American Physicians and Surgeons.

WASHINGTON, D. C., April 30, 1886.

TO THE PRESIDENT OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION:

In view of the fact that there are a number of special medical organizations now in existence in the United States, each having for its aim and attainment the advancement of the special department of medicine for which it was organized; and since the members of said special societies are of the representative men of the profession in America, many of whom are, at the same time, fellows or members of several of these special societies, which double membership, if it may be so expressed, necessitates them, if desirous of attending two or more of the meetings of these societies the same year, to make as many separate trips from home, and often with much loss of time to themselves and inconvenience to their patients. Therefore, it appears necessary that some arrangement should be made with the different societies as to a uniform time and place of holding their sessions, so that those members who wish to attend the meetings of more than one association may be enabled to do so without useless expenditure of money or unnecessary loss of time.

An extended correspondence, together with personal conferences with many of the most prominent of the fellows of this and other of the associations, has disclosed the fact that there is a decided and growing inclination to unite the various societies into a common whole, whereby it would become a general organization, representative of the various special departments of the profession in America.

The plan proposed, and which is offered for consideration, is to unite the following named associations into a Congress based upon the outlines which are now to be explained: American Surgical Association, American Ophthalmological Association, American Otological Association, American Neurological Association, American Laryngological Association, American Gynecological Association, American Dermatological Association, American Climatological Association, and American Clinical and Pathological Association. These associations to be united under the name and style of "The Congress of American Physicians and Surgeons."

The plan of organization hereby submitted, and subject to any alterations or amendments which may be deemed wise and proper, is that each society will preserve its own name, constitution, and by-laws, elect its own officers and fellows, hold its own sessions apart from the others at the time and place of meeting, publish its own transactions, and do all other acts of which, by virtue of its constitution and by-laws, it has the inherent right to do, thus preserving its own autonomy.

The Congress to be composed of these special societies when in convention, and its meetings to be held annually in the city of Washington, the most appropriate place for the assembling of such an organization. The constitution and by-laws of the Congress to be formed by a committee composed of a like number chosen from each separate society. The opening session of each annual meeting of the Congress to be devoted to such general business as may pertain to the interests of the association as a whole. The Congress to be presided over by a president, elected annually, and who shall deliver the opening address upon the first day of the session.

The manner of choosing the president to be as follows: By a nominating committee composed of one member elected from each special association, or otherwise, as may be determined upon by the special society itself, this committee nominating one or more candidates for the office of president, whose election is to be by ballot on the last day of the annual session, and in a convention of all the societies assembled. The presidents of the special societies to become, *ex-officio*, vice-presidents of the Congress. Membership in the Congress to be acquired only by virtue of fellowship in one or another of the special associations. Other officers of the Congress to be elected or appointed, as may hereafter be determined upon by the associations in convention.

These are the outlines of a union proposed for the consideration of the members of this Association, which, if it should meet their approval, can be submitted to the action of the societies which have been mentioned. It was suggested that the Chair appoint a committee of five to bring the subject before the next special association which meets this spring or coming summer, and which, in the event of a concurrence of opinion on the part of said society, shall act in concord with their committee appointed to confer with the other societies in the order of their meetings. This enlarged committee to report at a convention of all the societies, which shall be requested to hold their next annual meetings at the same dates in the month of June, 1888, in the city of Washington.

To avoid any confusion as to the time of next meeting, each society (this year) could adjourn to meet in June, 1888, leaving the date to be fixed by the enlarged committee after their work of conference had been finished, it then being only necessary to apprise the secretaries of the respective associations, who will give notice to the various fellows or members.

This proposition is the result of calm consideration, and has been approvingly indorsed by quite a number of the representative gentlemen of the profession, both in and out of this special association.

The plan proposed is simply to unite into one great body the already existing special societies, and it is proposed from the honest conviction that such a union will prove of inestimable benefit to them individually and collectively.

The special committee appointed by the American Surgical Association to consider the above memorial, reported that it viewed with great satisfaction the perfection of a plan through which the meeting of the associations above named in the city of Washington, at the same time of the year, may be accomplished, and the meeting of all the associations in general assemply on such days as may be determined, for the purpose of delivering addresses upon general subjects in medicine, such meetings to be held without any formal organization through which the associations meeting will sacrifice their autonomy.

To accomplish these purposes, the committee offers the following resolution:

Resolved, That a committee of five fellows of this association be appointed, which shall be authorized to confer with committees of other associations interested in the adoption of a plan of a convention as hereinbefore stated, and report upon the same at the next meeting for the action of the association.

The resolution was adopted, and the following committee was appointed in accordance therewith: C. H. Mastin, M.D., Mobile, Chairman; C. T. Parkes, M.D., Chicago; J. Ford Thompson, M.D., Washington; N. Senn, M.D., Milwaukee; J. Ewing Mears, M.D., Philadelphia, Secretary.

The proposition was approved, the committee to be announced later.

Dr. Henry B. Baker, of Lansing, Mich., read a paper

ON THE CAUSATION OF PNEUMONIA,

with a number of illustrative diagrams showing the relation of deaths from pneumonia to various meteorological conditions. The temperature curve was based on 154,400 observations. There were recorded 5,473 deaths from pneumonia in Michigan. Certain conditions are so uniformly associated with sickness from pneumonia is the night ozone; but it probably not the controlling factor. The amount of ozone is largely controlled by the temperature. Variations in atmospheric pressure, relative humidity, as well as absolute humidity, also seem to have a causal relation to pneumonia; but these conditions are under the influence of temperature. The investigations show that pneumonia is directly, or indirectly, caused by a comparatively low temperature. The work goes to prove, in a scientific manner, the truth of more or less widespread beliefs since the time of Hippocrates.

The mucous membrane of the bronchial tubes exposes a surface of fourteen hundred square feet. A large amount of water is taken out of the body by the lungs is very great. In Michigan the amount of vapor exhaled in excess of that inhaled is greater in January than in July. One reason is that less vapor enters the lungs with the air at a low temperature. As the air is warmed in the lungs its capacity for moisture is increased, and its demand for water is great. The fluid that passes into the air-cells contains the salts of the blood, some of which—as the chloride of sodium—do not readily pass off. An unusual accumulation of chloride of sodium occurs in the lungs. This probably favors the exudation into the lungs of albuminous constituents of the blood. Whether the ultimate fibrinous character of the exudate in the lungs is due to the blood-plaques or is a result of the oxidation of the albumen otherwise induced before or after exudation, it may be well to notice that the diagrams present a close relation between the curves of atmospheric ozone and pneumonia.

Dr. J. H. Musser, of Philadelphia, read a paper entitled

SUGGESTIONS REGARDING THE PREVENTION OF PHTHISIS IN MILL HANDS.

The speaker stated that it was rather to prevent that state of the system which often leads to phthisis that he desired to make some suggestions. The suggestions more particularly referred to factory laborers. He showed that states of ill-health were common in this class of artisans, and asserted that it was very largely due to an inadequate supply of food, which was improperly selected and prepared, and to carelessness in attention to digestion. This cause obtained more largely than bad hygienic surroundings, or than the occupation itself.

If this be true the remedy proposed was to have the plan of the Willimantic Cotton Company used by all mill proprietors. That company has proved, by experience and careful calculation, that it pays them in quality and quantity of work done to supply milk to their boys and bouillon to their women twice daily, and that the health of the operatives is promoted and their lives prolonged thereby. Dr. Musser trusted that the members of the Society could influence proprietors to adopt this plan and therefore close one of the avenues to disease and death.

Dr. C. L. Dana, of New York, read a paper entitled

A STATISTICAL INQUIRY REGARDING THE RELATION OF HIGH ALTITUDES TO NERVOUS DISEASES.

The speaker presented the results of inquiries made, at his request, of twelve physicians living in Colorado Springs, regarding the effects of high climates on the nervous system in health and disease. The majority thought that chorea in children was more frequent there than in lower altitudes; that the climate was bad for nervous women. The high altitudes do not necessarily injure epileptics, and in anæmic cases might cause improvement. Insomnia dependent upon anæmia and malnutrition was benefited and generally cured. The climate has no specific influence for good upon diseases of the spinal cord, and, if anything, the contrary. The speaker

was of the opinion that high altitudes had a tendency to excite lithæmia and arthritism, with consequent irritating effects upon the nerve-centres. The best effects of the climate were seen in anæmic insomnia, neurasthenia, and melancholia.

Dr. G. R. Butler, of Brooklyn, read a paper on "Mitral Stenosis," giving the histories of fourteen cases.

The President announced as the committee to confer with the committees of other special societies, with reference to the establishment of a "Congress of American Physicians and Surgeons": Dr. A. L. Loomis, New York; Dr. F. Donaldson, Baltimore; Dr. F. C. Shattuck, Boston; Dr. E. T. Bruen, Philadelphia; and Dr. W. W. Johnson, Washington.

It was resolved to appoint a committee of three, with Dr. C. C. Rice as chairman, to investigate the therapeutical properties of the different mineral springs.

After passing a vote of thanks to the College of Physicians for the use of their hall, the Society adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SOCIETY MEETINGS—THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION—EXCISION OF THE KNEE-JOINT FOR UNUNITED PATELLAR FRACTURE—HISTOLOGICAL CHANGES IN HYDROPHOBIA—MEDICINE AND ART—CHANGES OF PROFESSION.

London, May 7, 1886.

With the approach of summer—and, at last, of genuine summer weather also—the medical societies are all making preparations for "shutting up," and by next month the last of the society meetings will have been held. The British Medical Association forms a notable exception, for its branch meetings continue to be held, and the great annual meeting will, as always, be held at the end of July. As Brighton is to be the place of meeting this year, a very large attendance may be expected, for Brighton is only an hour and a half by rail from London, and is so easy of access to, and so frequented by, Londoners that it is often called "London-on-Sea." The fact that Dr. Billings is to give an address will prove an undoubted attraction. Though not so well known by name as Dr. Flint, I am sure he will draw a good audience. I well remember the enthusiasm with which his address on "Medical Literature," at the International Medical Congress in London (1881), was received. At its conclusion the President of the Congress (Sir James Paget) rose, and after referring to the native wit and wisdom contained in Dr. Billings' address, said that it alone, without any other contribution, would have sufficed to render the Congress memorable. The applause with which Sir James Paget's remarks were received showed his audience to be in full agreement with them. I recall the scene vividly. Dr. Flint's name is widely known and esteemed on this side of the Atlantic, and his loss will no doubt be felt at the Brighton meeting, but I have no doubt that Dr. Billings will well fill the gap, and do much to make the meeting a success.

At the last meeting of the Clinical Society a brief discussion took place on the treatment of fractured patella. Mr. Lunn exhibited a patient who had twice sustained this injury to his left patella. The first fracture united. The second, which occurred six months after the first, would not do so. There was wide separation of the fragments, and the patient was miserable from the pain he suffered, and from the knee constantly giving way under him. After he had been in this condition sixteen years Mr. Lunn excised the knee-joint, and wired the femur and tibia together with silver wire. The operation was performed antiseptically, and six weeks afterward the limb was put up in plaster-of-Paris, and the patient allowed to get about on crutches. A useful limb was the result. The patient was forty-four years of age at the time of the operation, which age, remarked Mr. Lunn, was considered rather an advanced one at which to perform excision of the knee-joint. Mr. Timothy Holmes expressed approval of the treatment pursued by Mr. Lunn. Modern notions had been much modified as to age, he said, and he had himself excised the knee-joint in patients over forty, and had seen successful cases in older people. Professor Humphry, he believed, had performed the operation with success in one patient over sixty. Mr. Holmes said he considered wiring the patella a rash proceeding in recent cases of fracture, and some old cases did not yield good results after wiring, but would do well with excision. Mr. Gould remarked that wiring the patella gave the patient a movable knee instead of a stiff joint, as after excision, though he admitted that Mr. Lunn's patient possessed a useful limb, and that in some cases excision might be essential.

At the last meeting of the Pathological Society, Dr. Hale White showed a series of specimens taken from two men and a dog who had died of hydrophobia. From the histological study of these specimens, Dr. White concluded that the essential lesion was an acute inflammation in the floor of the fourth ventricle spreading upward to the brain and downward to the cord. There was some blurring of the secretory epithelium in the salivary glands, and a few leucocytes were seen among the gland elements. In one case the thyroid was atrophied. The pneumogastric and sympathetic nerves were examined, as was also every organ in the body, but no changes were found.

No medical artist has an exhibit at this year's Royal Academy exhibition, though there is a notable collection of medical portraits, busts, and statues by professional artists. Sir Henry Thompson has no work in the "Academy," though he exhibits a beautiful Italian landscape at the Grosvenor Gallery. Yet many of our profession possess no mean skill with the brush, pencil, or burin. As etchers, Mr. Seymour Haden and Dr. Evershed have attained considerable repute. The former is a surgeon (now retired), who some few years ago created some stir by his denunciation of the current insanitary methods of burial in solid wooden or leaden coffins. Numerous vigorous letters from his pen appeared in the *Times*, giving graphic descriptions of some graveyard explorations, and advocating the employment of perishable coffins. Dr. Evershed is a practising physician and is attached to one of the consumption hospitals. Many other names might be mentioned. Of art connoisseurs our profession has had, and still has, many within its ranks. Among these the late Dr. Billing was noteworthy for the valuable collection of gems and cameos he possessed. Turning to the sister art, the drama, more than one medical man has appeared on the stage. One distinguished ophthalmic surgeon in London, now enjoying a large and lucrative practice, had formerly, I believe, some idea of devoting himself entirely to the dramatic art.

The above are all instances of doctors who, while remaining in their own profession, yet have shown special skill or interest in another. Yet entire changes of profession have often occurred. The transition from medicine to science is most easy, and a large proportion of our eminent scientists have been brought up as medical men, and some have practised as such. As instances may be mentioned Professor Huxley, Sir Joseph Hooker, Dr. Bayley Balfour, Dr. Odling, Professor Crum Brown, Professor Martin Duncan, and Professor Sanderson. Literature furnishes many similar examples. The present editor of one of the most popular of our monthly magazines is a medical man. Divinity, too, has proved to many of our profession a more attractive study than medicine, and not a few doctors have ceased to be practitioners in order to become ministers of religion. Law has not attracted so many votaries; still, it has

lured some from clinical pursuits. At least one medical man has lived to be a judge, and an eminent queen's counsel now living was not only brought up to the medical profession, but actually practised it for twenty years, attaining some repute as an obstetrician. It is interesting to note that he has educated his son for his adopted, not for his original, profession. I have known an instance of a converse change. A young man who had been brought up as a solicitor tired of law and forsook it for medicine. I have also heard a lawyer express the wish that he had been a doctor. Many doctors in this country are tempted—on financial grounds—to wish the opposite. Law offers rewards such as medicine cannot, and is the pathway to honors denied to the sister profession.

OUR PARIS LETTER.

THE LABORS OF PASTEUR.

[Paris, April 30, 1886.

The universal interest now taken in the Pasteur treatment of hydrophobia induces me to lay before your readers a short account of the method adopted by that eminent biologist for the prevention of that appalling malady. The history of M. Pasteur's remarkable discovery is so well known that a repetition of his preliminary experiments on animals would be superfluous. I may, however, briefly relate that his first experiments in connection with hydrophobia were made in December, 1880. It will be remembered that he collected, by means of a camel's-hair brush, some mucus from the mouth of a child aged nine years which had died from hydrophobia in a hospital in Paris. The child had been bitten in the face by a dog in a village near Paris. It was ascertained beyond doubt that the dog was mad. The mucus was removed from the child four hours after death. Two rabbits were inoculated with it, and these animals died thirty-six hours afterward. Other rabbits were then inoculated from them, some with the saliva, others with the blood. The second series of rabbits died more rapidly after inoculation than the first, the third series more rapidly than the second, and so on through several successive series of animals. He then performed experiments with the view of ascertaining the period of incubation of rabies in animals of the same species; for instance, if a rabbit be, after trephining, inoculated under the dura mater with a fragment of the spinal cord removed from a mad dog, hydrophobia always appears after an incubation period which, on an average, covers fifteen days. This period of incubation is shortened by the transmission of rabies from one rabbit to another, so that after a series of twenty-five rabbits it is reduced to eight days, and after another series of twenty-five rabbits to seven days. The reduction of the period of incubation could not be further diminished by the transmission of the malady to another series of forty animals. M. Pasteur admits that the virulence of the contagium then attains its highest degree. In dogs, in which the period of incubation is fifteen or sixteen days when they are inoculated with the rabic virus recently taken from a stray dog, it would be reduced to ten or eight days when they are inoculated with virus prepared in the manner already described.

The following is a brief description of the mode of procedure adopted by M. Pasteur for inoculating animals: The rabbits, which are the animals most frequently employed, are chloroformed. A longitudinal incision of two centimetres is made through the integuments in the frontal region, then a portion of bone of six millimetres in diameter is removed with a trephine, and under the dura mater thus exposed is injected a drop of the infecting fluid by means of a Pravaz's syringe, the extremity of the nozzle of which is bent at right angles. The wound is washed several times with carbolic acid during the operation; it is united by sutures, and the animal is then removed to its box. Rabbits generally bear the operation well, and, with a few rare exceptions in which small abscesses are formed, no real complication has been observed. The clinical aspect presented by the inoculated animals corresponds with that termed dumb rabies ("rage muette"); in dogs the paralytic form of rabies is for the most part observed. The preparation of the attenuated virus is effected in the following manner: The animal which has died of rabies is fastened to a plank with the back upward. An incision is made through the skin along the spine, extending from the skull to the coccyx, and the dorsal muscles are detached. The spinal canal is opened from behind with a red-hot iron; the spinal marrow and the meninges are removed with a knife and pincers equally heated to redness, and then these organs are placed on a flat plate previously sterilized, in which they are divided, with scissors disinfected, into pieces of six centimetres, which are immediately fastened with a thread to the stopper of a bottle prepared for the purpose, in which it is suspended. These bottles are of the volume of two litres, at the bottom of which is laid some caustic potash about two centimetres deep to maintain the air in the bottles in a dry state. Besides the usual opening at the top of the bottles there is another lateral opening near the bottom, both of which are stopped with sterilized wadding. The bottles are then arranged in a well-ventilated room, the temperature of which is kept constantly at 20° Centigrade. The pieces of marrow commence to get dry in about three or four hours, and are completely so in four or five days.

The virulence of these pieces of marrow is nil after fourteen days; at the end of nine, eight, or seven days, one can produce rabies in rabbits by inoculation. At the sixth day the virulence gradually diminishes. The diminution of the virulence depends on the temperature, the lower the latter is the less the virulence diminishes. For inoculation, pieces of dried marrow a few millimetres long are emulsified in a quantity of fowl-broth sterilized four to six times greater. The inoculations are commenced with the weakest virus (that of fourteen days), and the subsequent inoculations are continued step by step to the stronger. The inoculations are finished with the strongest virus, which infects the rabbit from the sixth to the seventh day, and a dog from the eighth to the ninth day. In this manner M. Pasteur was able, in a long series of experiments, without a single negative result, to render animals insusceptible ("réfractaire") to rabies. As regards the length of the duration of the immunity, he is not yet in a position to decide. He has under his care fifty dogs that he considers insusceptible to hydrophobia, and now and then he infects some of them with recent rabic virus. In another species of experiments M. Pasteur occupied himself with the question as to whether the immunity is transmitted from one generation to another. The first experiments performed by him on guinea-pigs appeared to give positive results. If this should be confirmed, the importance of such a result in practice can hardly be overrated.

These experiments were begun in November, 1882, of which he made a report to the Academy of Sciences on October 26, 1885. A period of three years had therefore elapsed between that time and when this communication was made, without the slightest interruption in their course. No other virus had been used than that removed from rabbits which had died from hydrophobia after successive inoculations, so that M. Pasteur had always at his command perfectly pure virus, always, or very nearly, identical. This he considers to be the essential condition of his method. The cords of the rabbits inoculated are virulent throughout their entire length, and equally so. Encouraged by the results obtained by him in animals, M. Pasteur was induced to apply his method to the human subject, and, in his report to the Academy of Sciences above referred to, he stated that on July 6, 1885, he inoculated his first subject, Joseph Meister, an Alsacian youth, at his laboratory in the Rue d'Ulm. The boy had been bitten in fourteen different

places, on the hands, legs, and thighs. But before inoculating the boy, M. Pasteur consulted MM. Vulpian and Grancher, who considered the patient to be almost sure to die from hydrophobia. This first experiment, however, caused M. Pasteur great anxiety, as the dogs rendered refractory to hydrophobia by his method had not been bitten by a mad dog before attaining that condition; but he knew by previous experiments, that dogs which had already been bitten were easily made refractory to hydrophobia. The lad Meister was inoculated thirteen times in ten days, though, at present, M. Pasteur only makes ten inoculations, one every day. Each successive inoculation is made with a more virulent fluid than the preceding one. The last inoculations of Meister were made with a rabid virus taken from a mad dog, and rendered more virulent by being passed by inoculation from rabbit to rabbit. This virus produced hydrophobia in rabbits after seven days' incubation; and in a dog not inoculated for rabies after an incubation period of eight or ten days. As Joseph Meister is in perfect health, and it is nine months ago since he was bitten, and then inoculated, M. Pasteur concludes that he has escaped what appeared to be an imminent danger.

In my next I shall continue this report on M. Pasteur's inoculations.

STATE REGULATION OF THE PRACTICE OF MEDICINE IN NORTH CAROLINA.

To the Editor of The Medical Record.

Sir: In your issue of February 6, 1886, is an editorial on the above subject, in which you comment upon the wisdom, expediency, and justness of the Medical Act as passed by various States and Territories, the highest mead of praise being awarded to the State of North Carolina, as being the most crucial in its requirements of legal qualifications for the practice of the healing art. You, in the same issue, give, with a repressed smile of pitying ridicule, some of the erroneous answers of the young medical men applying for State grants to prosecute the profession of medical practice.

We have long and patiently waited for some able champion to arise in the cause of the much-abused, oppressed, and sneered-at young medical man, but none seem anxious to join the losing side. We, therefore, ask that you give us space for our exposition of the Medical Act as it now exists in this State.

The Medical Act of the General Assembly of North Carolina of 1884 and 1885 makes it a misdemeanor for anyone to practise medicine or surgery in the said State, except such an one as had a previously procured certificate from the State Medical Board, or a diploma from some reputable medical college, issued prior to January, 1880.

Now we claim that the above law, in its exclusive favors to a certain class, is highly unjust, not only robbing the younger members of the profession of advantages which they have purchased for themselves through days of arduous toil, but at the same time placing them in the very falsest light before the laity. The young medical men of North Carolina are as much in favor of stringent laws and examinations, in order to keep out incompetents, as the wildest and grayest enthusiast in the State; but they do object to the implication made in the law that their education alone is defective; that they alone require the eliminating influences of the act, while those who had the good fortune to graduate prior to 1880 are folded in the fostering arms of the law, shielded from every untoward circumstance, and permitted to practise medicine and surgery without let or hindrance from any source. "Yea, ye are the people, and wisdom will die with you."

Are the facilities for acquiring a medical education less now than in ante-bellum days, when two professors could exhaust, in the allotted time, the limited curriculum, and our gray-haired sages received from their Alma Maters the permit to go forth and heal? I trow not. Is it a fact that the mental endowments of those young men who have graduated since 1880 are of a lower grade than of those who graduated prior to that time? No one can so affirm. Then why this distinction without a difference? Why are we, graduates of the best schools in the country in the year 1880, forced to leave our practice in the hands of jealous and watchful rivals, to incur the expense of travel, the mortification of an examination, and probably the chagrin of defeat, while our more fortunate confrere, a graduate of 1879, enjoys all the immunities of the law and all the privileges of the profession without debarment from anyone? Why not pass an act either to *include all*, or else make the law refer only to the incoming members of the profession?

The answer to the query is easy. The instigators of the law worked wisely in their own interest. They accurately measured their ground and knew how far to go. They well knew that the graduates of the last five years were, as a rule, without money, position, or influence, and any law against their interest and privilege would meet but slight opposition. They knew, further, that a bill to include all the physicians practising in the State would not only include themselves, but would be so unpopular as never to become a law, the legislators not daring to vote for such a measure. They therefore drafted such a bill as would be sure to pass, and, at the same time, give them an advantage over that minority element in the profession—the selfish hate of whom is equalled only by the fear of their ultimate success.

In observant experience we willingly yield the ground to age, but as a class we are ready, under any and all circumstances, to measure with the older members in all that pertains to the technique of our common profession. We object to no law that is equal and fair for all men. We object to no examination, however stringent, which everyone wishing to practise in the State is required impartially to pass; but we do object, and shall forever object, to distinctions being made against us for no other than spiteful and arbitrary reasons.

When will those members going before cease to retard the progress of those coming up behind? Why, say they, we are erecting for you a higher standard of excellence, in order that you may become better informed and more skilful medical men. Thanks, you remind us of the innocent Wall Street babes pleading before their country's tribunal for the poor working-men. The examples you set we are willing to follow; but we do not aspire to the egotistic position of leaders.

It is highly probable that the younger members are not the only ones in the medical profession to whom it would be a benefit, both to themselves and the communities in which they live, to have their memories refreshed by an examination upon matters medical. The answers given by the applicants mentioned in your article of February 6th, are not more ridiculously *outre* than many errors of old and well-experienced men which have fallen under my own observation. I have heard a noted physician speak of the great sciatic nerve as being on the top of the thigh. I know a physician of many years of active practice examine a patient with the bi-aural stethoscope, placing one aural tube at the base of the scapula, and the other on the nipple, and applying his ear to the trumpet extremity, gravely assure the patient that his lungs were normal, since he could hear nothing with his instrument of precision to impeach their integrity. Another noted physician of this State—one officiously instrumental in having the offensive bill passed—was unable to state *even the number* of bones in the cranial vault or in the face, when requested to do so, as an expert witness in a famous murder trial, by the counsel for the State. Yet all these are wise and well prepared for their work, while the unfortunate who was so unlucky as to pass his degree subsequent to 1880 is subjected to annoyance, expense, and often chagrin, by this unjust and unequal legislation.

The crime of being young and inexperienced we will

not attempt to palliate or deny; but we do hope that our faults and inefficiencies may cease with our youth, and that we be not of that number who continue to be ignorant, selfish, and vindictive, in spite of experience and the mollifying influences of time. As young men we ask no favors. Treat us as the rest are treated, and for what remains we will take care of ourselves. Were the law universally inclusive, then would we with you join hands in its praise. NORTH CAROLINIAN.

THE CASE OF DR. FANCOURT BARNES.

TO THE EDITOR OF THE MEDICAL RECORD.

IN THE MEDICAL RECORD of April 24, 1886, in the column devoted to "News of the Week," it is stated, on the authority of the *Journal of the American Medical Association*, that the charge that Dr. Barnes stole my dictionary is an unjust one, because Dr. Barnes' book contains several thousand words more than mine. You also say you would be glad to see Dr. Barnes' name cleared.

I assert that this charge against Dr. Barnes is true. A careful comparison of the two books, made by myself and others, has shown that, with one or two exceptions, he has reprinted all my words and definitions, even to the errors, misprints, punctuation, etc. There is such careful copying of all these throughout a sequence of several thousand words as to show that the resemblance could not have been so consecutively exact had not Dr. Barnes' printer used my printed page as part of his copy. His book contains very few strictly *medical* terms not found in mine. The mass of his padding consists of chemical, botanical, and pharmaceutical terms to be found in all the general dictionaries. A prominent journal, in reviewing Barnes' book, said that his additions were "not particularly, or at all, scientific." In many cases, after giving certain of my words and definitions, he has repeated the same word, giving another combination of definitions, evidently taken from the common dictionaries. Here and there a word was accidentally misplaced, with regard to its alphabetical position, in my dictionary; it receives the same malposition in Barnes' book. I have in my possession overwhelming proof of all that I claim. I wrote to this effect to all the prominent British journals, but, with one exception, they refused to publish my communication.

My dictionary is an original work, exactly as claimed in its preface, and was the product of years of hard study. Had it been reprinted in England as "Cutter's Dictionary," I should not have even protested; to steal such a work in the manner this has been done, is to inflict a much greater injury than to reprint an essay or work of that nature. Respectfully,

G. R. CUTTER.

52 BEDFORD AVENUE, BROOKLYN,
April 26, 1886.

THE CAUSE OF DIABETIC COMA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having noticed your editorial in THE MEDICAL RECORD of April 17, 1886, "The Cause and Prevention of Diabetic Coma," I wish to call your attention to a theory advanced by Stadelmann on the same subject.

In the course of former investigations Stadelmann found that in those specimens of urine of patients with diabetes mellitus in which a large amount of ammonia was contained an abnormal (pathological) acid—in most cases oxybutyric acid—was regularly likewise present. In regard to excretion of ammonia it was observed that the quantity of the same was very variable. Exclusive meat diet exerts a constant effect on the quantity of ammonia in the urine. Meat diet is to be considered as acid-producing nutriment, and as such it withdraws ammonia from the system, and consequently the urine of diabetics, when they live on exclusive meat diet, contains larger quantities of ammonia than when they live on mixed diet. Stadelmann further proved that the reaction of the urine on chloride of iron told nothing as to the presence of the pathological acid contained therein. Moreover, he found the excretion of ammonia in general to be at the same time in proportion with the excretion of the pathological acid. The diabetic often excretes seven to nine times more ammonia than when in a normal condition. According to Stadelmann, the diabetic coma is to be regarded as an acid intoxication of the blood, which poisoning is caused when the human system is no longer capable of producing the amount of ammonia necessary for the neutralization of the acids they pathologically formed. Under such circumstances the fixed alkalies of the blood, to a large extent, are withdrawn from the same by neutralization; they then are not able any more to combine with the carbonic acid formed in the tissues, and a dangerous overcharge of the tissues with carbonic acid is the result. The picture of acid intoxication, as produced by Walter, by means of feeding rabbits with muriatic acid, shows, likewise, as essential symptoms, dyspnœa, accelerated breathing, and weakness of heart. Stadelmann, supposing that diabetic coma was caused by acid intoxication, had already, at some former occasion, recommended the administration of carbonate of sodium in case of coma; but he advises to give it *not* per os or per clysma, but by means of direct intravenous injection, thus to bring it directly into the blood. He found in experimenting on animals that as much as 140 to 160 grammes of carbonate of sodium can safely be injected. Further, Stadelmann recommends, as a preventive measure against the danger of diabetic coma, the abundant administration of alkalies, especially when exclusive meat diet is commenced. The sudden change to exclusive meat diet (acid nutrition) favors the appearance of diabetic coma. A. ROSE, M.D.

214 SECOND AVENUE.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 9 to May 15, 1886.

HUNTINGTON, DAVID L., Major and Surgeon. Ordered to proceed from this city to David's Island, New York Harbor, on public business connected with the reconstruction of the present hospital building at that depot, or the erection of a new one. On completion of this duty to rejoin his station. S. O. 109, A. G. O., May 10, 1886.

FINLEY, JAMES A., Captain and Assistant Surgeon. Ordered for duty at Fort Buford, D. T. S. O. 39, Department of Dakota, May 5, 1886.

BENHAM, R. B., Captain and Assistant Surgeon. Ordered to Department of the Platte. S. O. 109, A. G. O., May 10, 1886.

CHERBONNIER, A. V., Captain and Medical Storekeeper, U.S.A. Granted leave of absence for four months, with permission to apply for four months' extension. S. O. 109, A. G. O., May 10, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 15, 1886.

BRANSFORD, J. F., Surgeon. Invalided, home from Pacific Station.

WINSLOW, GEO. F., Surgeon. Ordered, June 1st, to the U. S. S. Atlanta.

HEFFINGER, A. C., Passed Assistant Surgeon. Detached from the Navy Yard, Portsmouth, N. H., and ordered to U. S. S. Atlanta, June 1st.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 22 NEW YORK, MAY 29, 1886 Whole No. 812

Original Articles.

ENUCLEATION WITH TRANSPLANTATION AND REIMPLANTATION OF EYES.

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THIS operation being one of very recent date the literature of the subject is quite limited, and is embodied in Section I., History of the Operation. The remainder of these pages have been divided into Section II., Summary of Results Obtained, with a Study of the Changes taking place in the Transplanted Organ; Section III., Record of Cases; and Section IV., Peculiarities and Management of the Rabbit when kept for Experimental Purposes—this last section comprises the results of the writer's experience in this direction, and may prove useful to future experimenters.

I. HISTORY OF THE OPERATION.—The first mention of this operation is recorded in the *Revue Générale d'Ophthalmologie*, May 31, 1885. The following is a translated abstract: The operation was performed by Dr. Chibret, on May 4, 1885. The staphylomatous and buphthalmic eye of a girl of seventeen was removed, and the eye of a rabbit inserted into the conjunctival sac; sutures were passed from the patient's conjunctiva into the margin of the cornea above and below, and the transplanted organ thus kept in place. The eye was then bandaged. The operation was a failure, for on the fifteenth day the cornea, which had gradually been changing from hazy to an ulcerated condition, sloughed away, and the eyeball was destroyed. This failure the originator of this operation attributed to contact of threads with the cornea and the thinness of the rabbit's cornea. He claims to have had a rather sudden and complete return of sensibility of the transplanted cornea on the tenth day; the vascular and muscular union of the transplanted eyeball the operator found good.

Subsequently, in the same journal, under date of October 1, 1885, Dr. Chibret reviews the operation, and condemns further transplantations until reports shall have been furnished giving the results of the operation in animals.

Transplantation was next performed by M. Terrier, June 15, 1885; his report to the Société de Chirurgie of Paris, December 2, 1885, reviews the operation, and gives the results of this and a subsequent transplantation. In this (the second recorded case), sloughing of the cornea resulted on the third day.

The third case was one of M. Rohmer, June 22, 1885, and the cornea was destroyed on the seventh day.

The next transplantation was performed by Dr. H. W. Bradford, of Boston, and is reported in *The Boston Medical and Surgical Journal* of September 17, 1885. His method differed from previous ones in that the optic nerve was sutured to the stump of nerve remaining upon the globe of the rabbit's eye, considerable subconjunctival tissue was left, to which the muscles of the orbit were united, and the conjunctival sac sutured to the margin of conjunctiva left surrounding the rabbit's cornea. The observation ends on the eighteenth day after operation, and the following is the reported result: "Conformation and tension good; cornea improving (it had been hazy—C. H. M.), and has cleared peripherally so as to allow the iris to be distinctly seen; chemosis of the conjunctiva has disappeared, although the membrane remains congested; exposed sclerotic on outer side of eye practically covered by the conjunctiva; ocular movements in all directions good." This case is reported as a successful one.

The fifth and final reported case was performed by M. Terrier, October 19, 1885, and, although he adopted part of Dr. Bradford's plan, the operation was a failure.

Thus, of the five operations, four were failures—the cornea sloughing in each case. Even the successful Boston case is rendered doubtful by the fact that the report extends only over eighteen days, and in the following pages cases of operations by the writer are reported, where the cornea remained of good consistence, though hazy, for fifteen or sixteen days, and yet sloughed afterward when exposed to the atmosphere. A letter to Dr. Bradford asking for further developments in his case was not answered.

In four of these cases the rabbit's eye was employed; in one, a dog's eye—this was, however, one of the unsuccessful cases. Leaving out Dr. Bradford's case, the others are admitted failures; so that, at best, the success of the operation has not been established. By operating upon a large number of rabbits, the writer has been enabled to observe and record the following results.

II.—SUMMARY OF THE RESULTS OBTAINED, WITH A STUDY OF THE CHANGES TAKING PLACE IN THE TRANSPLANTED AND REIMPLANTED ORGAN.—The results of the series of twenty-four operations presented by the writer certainly justify repeated trials upon the eyes of man—at least the transplantation of the rabbit's globe into the human conjunctival sac, and succeeding in this, the transplantation of one human eye into the orbit of another. There are, however, moral objections to the disabling of one human being for the cosmetic improvement of another.

The operation must be placed among the perfectly feasible ones. Take Cases 24, 23, 21, 16, and 15, comprising one reimplantation and four transplantations. In these the bandage having been kept well in place throughout for twenty-one, twenty-one, twenty-eight, thirty-four, and thirty-six days respectively, the condition of the transplanted organ at the end of these periods was very favorable; the eyeball was of good conformity, the cornea hazy but clearing, and the tension good. Any one of these eyes, just as they are at time of writing, would be a great improvement upon many staphylomatous or atrophied eyeballs, or those the seat of dense white leucoma. Then, again, the artificial eye is a foreign body, and from time to time excites inflammation; it has to be renewed every two years, and is an item of expense, especially if an artistic match to the other eye is desired. In rabbits all colors of irides may be obtained (the writer has not yet met with a pale blue one), brown, black, gray, dark-blue—here would be a sufficient assortment of colors to choose from in order to match the human eye.

In size the rabbit's eye is smaller than the adult human globe; it varies from 18 to 23½ mm. in diameter. Were there any demand for rabbit's eyes, large-sized animals could be bred for this purpose. [The writer is now attempting this, having for the doe an animal whose eyeball measures 23½ mm. transversely, and a buck of equal size for the purpose.]

The arrangement of muscles in the rabbit is identical with that of the human eye. The ophthalmoscopic appearances of the fundus of the rabbit are somewhat different from those in man—the arrangement of blood-vessels is the same.

One result of the series of operations it is very important to remember: *In no case was there any rise of temperature or any apparent interference with the general health, or the slightest implication of the sound eye.* Hence, even though the operation fails, no injury will have been done, for even in all the unfavorable cases a stump remained at least as good as that resulting after ordinary enucleation, while in most of these cases the stump afforded a better rest for an artificial eye than would have been obtained in an ordinary enucleation.

Method of operating.—The operations were done with strict antiseptic precautions. The instruments were washed and wiped with alcohol, and previous to use dipped into a saturated solution of boric acid. The eye was kept wet constantly with a solution of corrosive sublimate (1 to 10,000). Two rabbits of equal size being chosen, they were anæsthetized, and a spring speculum introduced beneath the lids of the eye to be removed to keep the lids apart. With forceps, the conjunctiva and Tenon's capsule over the insertion of the rectus superior were raised, cut into with the blunt straight scissors; with the blunt hook the muscle was caught, a thread passed through muscle and conjunctiva to secure both, and the insertion of the muscle divided. This was done with each of the recti muscles, and the intervening conjunctiva was cut at about an eighth of an inch from the corneal margin. A thread was then passed through the conjunctiva of the eyeball opposite the superior rectus, and knotted so as to give the relations of the eyeball after removal. The subconjunctival tissue around the eyeball having been severed and as much as possible having been left upon the eyeball, the latter was made to protrude and the optic nerve divided by blunt-pointed scissors curved on the flat, at about an eighth of an inch from its entrance. The enucleated eyeball was now placed in a saturated solution of boric acid and covered by cotton.

The eye of another rabbit was enucleated in a similar manner. After hemorrhage had ceased in the socket of the first rabbit, the optic nerve was sought for, caught with the forceps, and the smallest-size catgut suture, previously soaked in the sublimate solution and threaded upon a very delicate curved needle, passed through it at about an eighth of an inch from the extremity; the same needle was then passed through the stump of the nerve attached to the eyeball of the second rabbit, the two ends approximated by tightening the suture, the latter tied twice and cut off short. By means of the four threads attached to the recti muscles and conjunctiva, the conjunctival sac was drawn over the eyeball and then stitched to the margin of conjunctiva left surrounding the cornea of the transplanted organ; this was done by eight stitches of smallest-size iron-dyed silk; four of these stitches were passed through recti muscles and overlying conjunctiva on the one hand, and secured to the rim of pericorneal conjunctiva on the other; the remaining four passing in the intermuscular intervals and securing the two edges of conjunctiva only.

The eyeball having been thoroughly washed with solution of bichloride (1 to 10,000), the lids were sewed together by two silk sutures transfixing their edges, white vaseline smeared over them, and successive disks of borated cotton applied so as to form a firm and even compress. Over this a ⅝ inch (four yards long) flannel bandage was applied, the turns alternating, some horizontal above supraorbital rims, some vertical passing between ears, over affected eye, and beneath the jaw; the unoperated eye was left uncovered. The whole was covered by a specially contrived chamois mask; the latter consisted of two lateral pieces of chamois, laced below the jaw, and in the median line of the upper surface of the skull, and provided with openings for the ears, for the unbandaged eye, the neck, and mouth, so that every part of the skull was enveloped with the exception of the parts mentioned; this chamois covering was tightened by lacing, and was sewed on the underlying bandage at several places so as to prevent slipping. The bandages were left on, when possible, a week, or longer, before removal; and such thorough antisepsis did the bichloride solution insure that suppuration under the bandage was the exception. The operations lasted about one hour; the transplanted eyes remained in the boric-acid solution from ten to twenty minutes (this time being necessary for enucleating the second eye, checking hemorrhage, and securing the nerve). The animal recovered rapidly from the effects of the ether.

Considerable difficulty often presented itself in catching up the divided optic nerve and in passing the suture. Hence the writer suggests the following special forceps and needle: The forceps consists of an ordinary fixation-forceps, the extremity of which is concave internally, and when closed presents a circle the circumference of which corresponds to that of the optic nerve, and provided with fine teeth; an eighth of an inch above the termination is an opening to admit the passage of the threaded needle. The latter is a very delicately rounded needle, curved almost at right angles, the point flattened from side to side, provided with a fine opening, and mounted upon a holder. The special forceps grasps the end of the nerve and holds it while the needle and catgut transfix it by passing through the opening near the extremity of the forceps.

Changes in the transplanted and reimplanted eyeballs.—The first seven cases were left unbandaged, and degeneration (sclerosis or sloughing) of the cornea was the invariable result. The next seven cases were bandaged, but the method was unequal to the task of preventing displacement or removal from the incessant attempts of the animal to get off the dressings; the result was that the cornea degenerated (sclerosis or sloughing) soon after the bandage was removed, though it had remained in good condition while the dressings were well in place. In the remaining ten cases, the bandage was displaced in Cases 17 and 18 and was removed, put on too tightly and had to be removed in Cases 19 and 20; here, again, the cases progressed favorably until the bandage became displaced and had to be removed. It might be asked why the bandages were not made to stay on sucessfully; a consideration of the shape of the skull in the rabbit will explain this—were the bandage applied too tightly, it would interfere with the movements of the jaw and also produce excoriations of the skin, if too loosely, the animal succeeded in getting it off; so that this obstacle to the success of the operation in eighteen out of the twenty-four cases was a considerable one; in six cases it was overcome by the aid of the chamois covering.

Throughout the experiments all unbandaged operated eyes were washed out thoroughly with the bichloride solution (1 to 10,000) twice a day, and this was also done when the dressings were removed prior to rebandaging.

In six cases (15, 16, 21, 22, 23, and 24) the bandage stayed in place throughout, and the result was very favorable and satisfactory.

This proves that protection of the cornea from atmospheric contact is essential; when this was maintained, success was the result. The influence of the atmosphere is easily explained—the *cornea remained insensitive throughout in all cases*, the ciliary nerve-supply having been cut off; foreign bodies in the atmosphere settling upon the cornea excite no sensation, and remaining, without being washed off by the tears and movements of the lids, produce inflammation and degeneration of the cornea. This was well illustrated in the cases in which no bandage was applied; in all of these cases, the portion of the cornea which was first to slough—in fact, the only portion which sloughed at all—was a central elliptical portion corresponding to the part most exposed.

Synopsis of the History and Results of Cases.

Rabbit number.	Vascular zone appears around cornea.	Ocular movements can be demonstrated.	Tension.	Cornea begins to slough.	Result.	Bandage.
1	8th day.	7th day.	Diminished 2d day.	3d day.	Atrophy.	No bandage applied.
2	12th day.	6th day.	Diminished 3d day.	16th day.	Small stump.	
3	8th day.	5th day.	Diminished 12th day.	15th day.	Small stump.	
4	8th day.	5th day.	Slightly diminished 16th day.	No sloughing.	Atrophy—form preserved.	
5	7th day.	7th day.	Diminished 6 hours.	No sloughing.	Atrophy—form preserved.	
6	None appeared. 10th day.	10th day.	Diminished 2d day.	4th day.	Small stump.	
	8th day.	4th day.	Diminished 2d day.	10th day.	Small stump.	
		3d day.	Diminished 2d day.	No sloughing.	Atrophy—form preserved.	Removed 2d day.
9	10th day.	3d day.	Diminished 2d day, afterward increased and was +.	No sloughing.	Atrophy—form preserved.	Removed 2d day.
10	5th day.	5th day.	Diminished 6th day, when bandage removed.	No sloughing.	Atrophy—form preserved.	Removed 5th day.
11	16th day, bandage first removed.	16th day, b. f. r.	Diminished 16th day, b. f. r.	No sloughing.	Atrophy—form preserved.	Removed 16th day.
12	7th day, bandage first removed.	7th day, b. f. r.	Diminished 7th day, b. f. r., afterward became normal.	No sloughing.	Atrophy—form preserved.	Removed 7th day.
13	9th day, bandage first removed.	9th day, b. f. r.	Diminished 9th day, b. f. r.	15th day.	Stump.	Removed 9th day.
14	6th day.	6th day.	Diminished 4th day, b. f. r.	No sloughing.	Atrophy—form preserved.	Removed 4th day.
15	12th day, bandage first removed.	12th day, b. f. r.	Remains normal 36th day.	No sloughing.	Conformity and tension good, cornea hazy, size good, 36 days.	Kept on throughout.
16	7th day, bandage first removed.	7th day, b. f. r.	Remains normal 34th day.	No sloughing.	Size, conformity, and tension good, cornea hazy, 34 days.	Kept on throughout.
17	8th day, bandage first removed.	8th day, b. f. r.	Diminished 8th day, b. f. r.	13th day.	Small stump.	Removed 8th day.
18	10th day, bandage first removed.	10th day, b. f. r.	Diminished 10th day, b. f. r.	15th day.	Small stump.	Removed 10th day.
19	10th day.	10th day.	Diminished 3d day, b. f. r.	10th day.	Atrophy, soft.	Removed 3d day.
20	10th day.	10th day.	Diminished 6th day, b. f. r.	No sloughing.	Slight atrophy, soft.	Removed 6th day.
21	14th day, bandage first removed.	14th day, b. f. r.	Remains normal 28th day.	No sloughing.	Size, conformity, and tension good. cornea hazy, 28 days.	Kept on throughout.
22	Did not appear 43/5 days.	43/5 days, b. f. r.	Remains normal 43/5 days.	No sloughing.	Size. conformity, and tension good, cornea hazy, 43/5 days.	Kept on throughout.
23	7th day, bandage first removed.	7th day, b. f. r.	Remains normal 21st day.	No sloughing.	Size, conformity, and tension good, cornea hazy, 21 days.	Kept on throughout.
24	Optic nerve not sutured. 11th day.	7th day, b. f. r.	Diminished 7th day, b. f. r., then became normal, and remained so at 21st day.	No sloughing.	Size, conformity, and tension good, cornea hazy, 21 days.	Kept on throughout.

Synopsis of Six Cases in which Bandage could be Kept on Throughout.

Rabbit number.	Vascular zone appears around cornea.	Ocular movements demonstrated.	Tension.	Cornea begins to slough.	Result.
15	12th day, b. f. r.	12th day, b. f. r.	Remains normal 36th day.	No sloughing.	Size, conformity, and tension good, cornea hazy.
16	7th day, b. f. r.	7th day, b. f. r.	Remains normal 34th day.	No sloughing.	
21	14th day, b. f. r.	14th day, b. f. r.	Remains normal 28th day.	No sloughing.	
22	43/5 days, b. f. r.	43/5 days, b. f. r.	Remains normal 43/5 days.	No sloughing.	
23	7th day, b. f. r.	7th day, b. f. r.	Remains normal 21st day.	No sloughing.	
24	Optic nerve not sutured. 7th day, b. f. r.	7th day, b. f. r.	Diminished 7th day, then became normal, and remained so at 21st day.	No sloughing.	

NOTE.—B. f. r., bandage first removed.

By watching closely, the writer found that in sleeping the animals did not close the lids completely on the affected side, and the central elliptical portion corresponded to the space left between their margins. In other cases, in which the bandage had become displaced, the sloughy portion of the cornea corresponded to the exposed portion; in one case, in which the stitches holding the lids together had been rather loosely applied, a linear area of degeneration of the cornea showed where it had been exposed. Thus, the effect of atmospheric traumatism upon the insensitive cornea is clearly and indisputably established. The cornea must be protected until there is a return of sensibility. The parts supplied by direct branches from the fifth nerve, such as the nares, lids, and nasal mucous membrane, were not affected in any of the cases.

Under the microscope, the degenerated corneæ were found to be infiltrated with small, round, and polygonal, and larger fusiform cells, chiefly between the corneal fibres, and the latter were more opaque than normal; the epithelium of the surface was wanting in some places, and at others was markedly increased in numbers, causing a heaping up of cells.

The rapidity with which the ocular muscles attached themselves to the transplanted eyeball was wonderful; it occurred as early as the third day—in most cases by the seventh day, in a few only as late as the tenth day. This muscular connection was ascertained by dissection, and by associated movements transmitted from the other eye—a piece of carrot or some bright object was passed in varying directions in front of the sound eye, and the transplanted organ watched for associated motion; it was also ascertained (when the animal paid no attention to these objects) by moving the eyeball in varying directions with forceps, and noting the amount of resistance. Under the microscope the muscles showed very little fatty degeneration.

The connective-tissue union between the eyeball and surrounding capsule of conjunctiva was also effected quite rapidly; in one case (22) being considerable at the end of four and a half days, as found by dissection.

Vascularity of the rim of conjunctiva attached to the transplanted eyeball was demonstrated in one case of reimplantation on the fifth day, and in most cases on the eighth or tenth day; it would show itself by a red rim around some portion of the cornea, and between the eighth and tenth days, in most cases, blood-vessels could be traced with the naked eye, passing from the palpebral to the ocular-conjunctiva and thence to the rim of conjunctiva of the transplanted organ.

The tension of the eyeball began to diminish as early as the sixth hour (allowing a slight diminution present in all cases after enucleation), in most cases on the second day, when no bandage was applied; when bandaged well, tension remained normal throughout.

In some of the unbandaged cases the conformity of the eyeball was retained, and the eyeball simply the seat of atrophy and hardening; but in most of these unprotected eyes the cornea sloughed, the contents of the eyeball escaped, and a small or medium-sized, non-sensitive, retractive stump remained. In the bandaged cases the conformity of the eyeball remained good.

The changes in the optic nerve presented the well-known Wallerian degeneration; even with lower power enlargement, the difference, as shown by Weigert's copper-hæmatoxylon staining, was well marked in all cases;

the central end of the nerve was found to terminate abruptly and to be the seat of degeneration. In all cases there was union of the sutured ends of the nerve, even in one case (22) examined four and one-half days after suturing; the intervening substance between the central part of the nerve and the eyeball consisted in early stages of granulation tissue (small round-cells with very little intercellular elements), in later stages of fusiform cells mingled with connective-tissue fibres, some fat-vesicles and blood-vessels; later still, the connective tissue became firmer, but no nervous elements passed between eyeball and nerve in any case examined; the retinæ were invariably degenerated. The point of junction, where the nerve had been sutured, presented usually a small bulbous enlargement so as to have a greater diameter than the nerve itself; the catgut suture had been absorbed in all cases.

III. Record of Cases.—*Case* 1.—Large black doe. Operated January 30th. Removed L. E. and inserted L. E. of Case 2. Eye somewhat bulging after operation, but lids can close. No bandage applied.

Six hours: Cornea slightly hazy. T. n.

Second day: Cornea very dull and hazy. Considerable pus adheres to eyeball and lids. T. —.

Third day: Cornea very hazy and sloughy. T. —.

Fourth day: Ulceration of cornea corresponding to an elliptical area in centre.

Sixth day: Ulceration deeper. T. — 2.

Seventh day: There is slight associated muscular action.

Eighth day: Some of contents of eyeball have escaped through perforation in ulcerated part of cornea; a scab now covers the perforation. There is a slight vascular zone around the margin of the cornea.

Eleventh day: The eyeball has gradually shrivelled. Globe is small and hard. Perforation in cornea has closed. Cornea densely opaque.

Post-mortem appearances: Globe of left eye much smaller than right, and is white and anæmic, excepting around margin of cornea. L. E. measures 16 x 15 mm.; R. E. measures 18 x 18 mm. Right optic nerve at junction with eyeball is 1½ mm. in diameter, that of left eye measures 3 mm. transversely at same point. Conformation of R. E. normal. Left eye small, cornea completely opaque and hard, globe shrivelled. There is good connective-tissue union between ocular conjunctiva and eyeball; muscles are firmly attached to eyeball rather farther back than in normal eye; blood-vessels can be seen to pass from palpebral conjunctiva to that surrounding the cornea; palpebral conjunctiva appears normal. At situation of suture of nerve catgut cannot be demonstrated; there is a mass of tissue forming an oval enlargement and uniting the globe to the nerve. Brain apparently normal.

The unoperated eye has remained normal throughout. Cornea of transplanted eye has been insensitive throughout. At no time has there been any elevation of temperature or other apparent interference with general health.

Case 2.—Medium-sized black buck, operated January 30th. Removed L. E. and inserted L. E. of Case 1. No bandage applied.

Six hours: Cornea very slightly hazy, and epithelium denuded from an elliptical area over centre.

Second day: Cornea more hazy. T. n. Very little inflammatory reaction in lids.

Third day: Cornea hazy. Parts beyond cannot be seen. T. —.

Sixth day: Cornea is now quite opaque, but shows no tendency to slough; the elliptical central portion is of a denser white color than rest of cornea. There is associated muscular action.

Ninth day: All stitches have come out. Eyeball moves extensively and cornea is in centre of palpebral fissure.

Twelfth day: Blood-vessels are seen to pass from palpebral conjunctiva to margin of cornea.

Fourteenth day: Eyeball has diminished in size and is now quite small.

Fifteenth day: Cornea, which until now was smooth, though densely opaque, now looks sloughy.

Sixteenth day: Cornea begins to slough, chiefly in central elliptical portion.

Seventeenth day: Cornea has sloughed away and contents of eyeball have escaped; lens was soft and white, vitreous like boiled starch.

Eighteenth day: Scab covers opening in cornea.

Twentieth day: Nothing but a small, retracted, reddened stump now remains.

Forty-first day: Condition the same. Cornea has remained insensitive throughout. No implication of sound eye at any time. There has been no elevation of temperature, nor apparent interference with the general health at any time.

Case 3.—Small white and gray doe. Operated February 2d. Removed R. E. and inserted R. E. of Case 4. Eye bulges very little after operation. No bandage applied.

Six hours: Cornea slightly hazy. T. n.

Second day: Cornea more hazy, especially in central elliptical portion. T. n.

Third day: Cornea almost milk-white in color. T. n.

Fourth day: Slight epithelial abrasion over central elliptical portion.

Fifth day: There is slight associated muscular action.

Sixth day: Central elliptical portion has become denser and whiter than the rest. Epithelium still denuded over this area. T. n.

Eighth day: Pericorneal conjunctival vascularity visible.

Twelfth day: T. — (slightly). Whole cornea densely opaque, but central elliptical portion still more so. Eyeball anæmic, but remains of good size.

Thirteenth day: T. — 1. Cornea has assumed a yellowish color. Lids are somewhat swollen, and considerable pus exudes, causing their agglutination.

Fifteenth day: Cornea looks sloughy, especially at central elliptical portion. T. — 2.

Sixteenth day: Contents of eyeball have escaped through perforation in sloughing cornea. Nothing now remains but a small suppurating stump.

Twentieth day: Small, retracted stump remains; this no longer suppurates and eyelids have closed over it.

Fifty-first day: Small, non-irritated stump remains. Cornea has remained insensitive. Other eye has remained normal. There has been no elevation of temperature, no apparent interference with general health at any time.

Case 4.—Small gray and white buck. Operated February 2d. Removed R. E. and inserted R. E. of Case 3. No bandage applied.

Up to twelfth day progress identical with that of Case 3; after this more favorable than 3.

Thirteenth day: T. n. Cornea densely opaque, especially at central elliptical portion. Blood-vessels can be seen to pass from palpebral conjunctiva to that surrounding margin of cornea.

Sixteenth day: T. — (slightly). Form of eyeball preserved, but eye is smaller than the other.

Thirtieth day: Condition the same. Post-mortem examination shows eyeball atrophied, cornea densely opaque, form of eyeball preserved, muscles firmly attached, conjunctival sac firmly attached, nerve-connection by connective-tissue good.

Case 5.—White (pink eye) buck. Operated February 12th. Removed R. E. and reinserted it. No bandage applied. Eye somewhat bulging after operation.

Six hours: Cornea slightly hazy. T. — (slightly).

Second day: Cornea more hazy.

Fourth day: Cornea decidedly hazy. T. — 1.

Fifth day: Cornea still hazy, but yellow reflex can be seen from anterior chamber. T. — 1.

Seventh day: Cornea is now so opaque that contents of anterior chamber cannot be seen. Red rim appears around corneal margin. T. — 2.

Associated muscular action is present.

Twelfth day: Cornea rather less hazy than at last note, and yellowish body in anterior chamber can again be seen. Tension has improved somewhat and is now — 1. A few stitches still attached to conjunctiva were removed.

Eighteenth day: Cornea rather less hazy than before. T. — 1.

Twenty-third day: Cornea about same. Red vascular zone around margin of cornea has become very marked.

Twenty-fifth day: Cornea decidedly less hazy than it was, and is smooth. T. n. Cornea has remained insensitive. Other eye has not been implicated at any time. No rise of temperature nor apparent interference with the general health at any time.

Post-mortem examination: Eyeball found markedly atrophied, muscles firmly attached, also conjunctival sac; good vascularity. On section eyeball found to be disorganized, but no pus. Nerve-suture effected by plug of connective tissue.

Case 6.—Large gray, brown, and white buck. Operated February 13th. Removed R. E. and inserted R. E. of another rabbit of equal size. No bandage applied. Eyeball slightly bulging after the operation.

Six hours: Cornea slightly hazy.

Second day: T. — (slightly). Cornea is hazy, especially at central elliptical portion.

Third day: Cornea still more hazy. T. — 1.

Fourth day: Cornea begins to look sloughy and bulging, and considerable pus exudes from between eyelids. T. — 2.

Seventh day: Less suppuration of lids, but T. still — 2, and cornea still looks sloughy, especially at central portion.

Tenth day: Slight associated muscular action.

Fourteenth day: Cornea is becoming perforated and iris shows.

Fifteenth day: Contents of eyeball are escaping.

Sixteenth day: Contents of eyeball have escaped; opening in cornea covered over by a scab.

Twentieth day: Nothing remains but a small retracted stump.

Thirty-ninth day: Condition the same. Cornea has been insensitive. Other eye, temperature, and apparent general health have remained normal throughout.

Post-mortem examination: Stump remains; good muscular, connective-tissue, and vascular union between transplanted eyeball and conjunctival sac. Sutured ends of nerve connected by plug of connective tissue.

Case 7.—Small black and white buck. Operated February 14. Removed R. E. and inserted R. E. of another rabbit of equal size. No bandage applied.

Six hours: Cornea slightly hazy at periphery. T. n.

Second day: T. — (slightly).

Third day: Entire cornea hazy. T. — 2. Pus (apparently) in anterior chamber. Slight suppuration from lids.

Fourth day: Cornea more hazy, so that contents of anterior chamber cannot be seen. Slight associated muscular action.

Sixth day: Eyeball has diminished in size since operation. Cornea quite opaque. Sclera white and bloodless.

Eighth day: Cornea quite opaque, central elliptical portion especially.

Tenth day: Cornea looks sloughy. Pericorneal vascularity appears.

Eleventh day: Cornea is covered by a deposit of white material, which, when scraped off and examined microscopically, is found to consist of corneal epithelium and of pus-cells.

Twelfth day: White deposit on cornea has increased.

Thirteenth day: Perforation of cornea, and some of contents of eyeball have escaped.

Fourteenth day: Eyeball is now a suppurating mass.

Twentieth day: Suppuration has gradually ceased. There is now merely a small retracted stump remaining.

Twenty-fifth day: Cornea has remained insensitive throughout. Other eyeball has not become implicated at any time. There has been no rise of temperature or apparent interference with health at any time.

Case 8.—Medium-sized black doe. Operated February 16th. R. E. removed and R. E. of Case 9 inserted. Bandaged, but no chamois covering applied.

Second day: Bandage has become displaced and pressing upon side of eye causes it to bulge. Bandage removed. T. — 1. Cornea hazy.

Third day: Slight associated muscular action.

Fifth day: Cornea more hazy, especially at central elliptical portion.

Eighth day: Eyeball has atrophied some. Cornea opaque. T. — 1. Pericorneal vascularity appears.

Tenth day: Cornea of an opaque yellowish-white color. T. +.

Fifteenth day: Eyeball has gradually diminished in size and is now quite small.

Post-mortem examination: Eyeball half its original size. Good connective-tissue union of nerve to eyeball and of eyeball to conjunctival sac; vascular and muscular connections good.

Cornea has remained insensitive. Other eye has remained normal. There has been no elevation of temperature, nor apparent interference with general health at any time.

Case 9.—Large black buck. Operated February 16th. Removed R. E. and inserted R. E. of Case 8. Applied bandage but no chamois covering.

Second day: Bandage has become displaced, and eyeball is exposed. Bandage removed. Cornea hazy. T. — 1.

Third day: T. — 1. Cornea densely hazy. Considerable suppuration from lids. Slight ocular movements.

Fifth day: Cornea quite opaque and looks roughened, especially at central elliptical portion.

Eighth day: Cornea rather less opaque, but periphery has assumed a yellowish tint.

Tenth day: Red line can be seen around cornea, consisting of blood-vessels which have passed over from conjunctival sac. Tension more nearly normal. Eyeball has become rather smaller than on insertion.

Twelfth day: Excessive vascularity of conjunctiva immediately around cornea. Ocular movements good. T. — (slightly). Cornea opaque and slightly yellow peripherally.

Sixteenth day: T. n. Cornea somewhat bulging. Cornea smooth and still opaque, but yellow color has disappeared.

Twenty-fifth day: T. + (slightly). Cornea opaque, but less than before. Considerable atrophy of eyeball.

Twenty-eighth day: Cornea has remained insensitive.

Post-mortem examination shows atrophy of eyeball, connective-tissue union of sutured nerve-ends, and of globe with sac; good vascular and muscular connections.

Other eye has remained normal throughout, and there has been no elevation of temperature nor apparent interference with general health at any time.

Case 10.—Large white and black buck. Operated February 19th. Removed R. E. and reinserted it at end of fifteen minutes. Crinoline bandage and chamois covering applied.

Fifth day: Bandage has become displaced so that it constricts base of ears and has made them very sore, and must be removed. Dressings only very little soiled from discharges; these are sweet. One suture still in lid was removed. Cornea only slightly hazy; iris can be distinctly seen. T. n. Ocular movements good. Vascular zone around margin of cornea is seen. Bandage left off on account of soreness.

Sixth day: Cornea decidedly more hazy, especially at central elliptical portion. T. — (slightly).

Eighth day: Cornea now densely hazy. T. — .

Tenth day: Cornea now quite opaque, especially in centre. T. — .

Fifteenth day: Central portion of cornea is beginning to clear up some.

Twenty-second day: T. — 1. Cornea still opaque, especially at centre. Cornea has remained insensitive. There has been no implication of the other eye. Temperature and apparent general health have remained normal.

Post-mortem examination: Eyeball atrophied, much smaller than on insertion; muscles firmly attached; globe firmly united to conjunctival sac, and blood-vessels can be seen passing between the two. Seat of suture of optic nerve presents a firm connective-tissue connecting mass.

Case 11.—Small reddish-brown buck. Operated February 26th. Removed R. E. and inserted R. E. of another rabbit of about the same size. Bandaged and chamois covering.

Sixth day: Bandage has remained in position until to-day, when it has become displaced, and corner of eye is exposed and covered by a crust of desiccated discharge.

Eighth day: Discharges have stained chamois covering.

Sixteenth day: Removed bandage. Chamois had become very much stained with discharges. Anterior portion of eyeball has been exposed, the lids having been covered only by a scab for last ten days. Eyelids very much swollen. One stitch still in place and was removed. Cornea is hazy, of a bluish-white color, which is denser anteriorly where exposure took place. T. — (slightly). A few stitches remained in conjunctiva and were removed. Ocular movements good. Red vascular rim is seen around margin of cornea. Washed out thoroughly with solution of mercuric bichloride (1 to 10,000) and rebandaged.

Twenty-sixth day: Eyeball has become atrophied, and is much smaller than it was on insertion. Cornea is densely opaque. Post-mortem examination shows lens opaque and swollen, vitreous consisting of an opaque, starchy mass; optic nerve united to eyeball by connective tissue; globe firmly united to sac by connective tissue; muscles well attached; vascularity good. Cornea has remained insensitive. Other eye, temperature, and apparent health have remained unaffected.

Case 12.—Large grayish-brown buck. Operated February 28th. Removed R. E., and reimplanted it after ten minutes. Bandaged and chamois covering applied.

Fourth day: Bandage has been displaced, and inner canthus is exposed. Discharge shows through chamois. Nictitating membrane of other eye looks red and swollen, probably from pressure of bandage, which appears rather tight. No elevation of temperature or apparent interference with general health.

Seventh day: The red and swollen condition of the nictitating membrane of the sound eye continuing, bandage was removed; it seems to have been on very tightly, for base of both ears present numerous excoriations from pressure. On removal of bandage eyelids are very much swollen. One stitch remained in lid, and was removed. Nictitating membrane red and swollen. Cornea decidedly hazy, and this is especially marked internally, corresponding to the exposed portion from displacement of the bandage on the fourth day. T. — (slightly). Red vascular margin surrounds cornea. Ocular movements good. Bandage cannot be reapplied on account of extensive excoriations.

Eighth day: Sound eye appears normal to-day, and nictitating membrane is no longer red and swollen, showing this to have been produced by pressure from bandage. Nictitating membrane of reimplanted eye is also normal. Cornea rather denser, especially in centre. T. — 1.

Thirteenth day: Cornea still more dense, and central elliptical portion very opaque. Swelling of eyelids has disappeared.

Sixteenth day: Vascularity of peripheral portion of cornea is very marked, and rapidly extending toward centre. T. n.

Twenty-fourth day: Entire cornea now looks red and fleshy, excepting central elliptical portion, which is of a dense, yellowish-white color. T. n. or +.

Fortieth day: Entire cornea now looks fleshy; it has remained insensitive. Eyeball is considerably atrophied. T. + 1. Other eye has not been implicated. There has been no elevation of temperature or apparent interference with the general health at any time.

Case 13.—Medium-sized reddish-gray buck. Operated March 12th. Removed R. E. and reinserted it after ten minutes. Bandaged and chamois covering.

Ninth day: Bandage has become displaced and is coming off. On removing it, dressings found discolored with discharges, which are sweet. Considerable mucopurulent discharge, mixed with hair, on compress. Lids very œdematous and still closed by stitches, these were removed. Considerable discharge between lids, upon removing which cornea found opaque, of a bluish-white color, and covered by considerable desiccated discharge, which under the microscope is found to consist of pus, fat-globules, and corneal epithelium. T. — (slightly). Conformation of eyeball good. Vascularity around cornea apparent. Ocular movements good. Bandage could not be reapplied on account of numerous excoriations.

Fifteenth day: Cornea looks sloughy, especially at central elliptical portion.

Twenty-first day: Cornea looks sloughy and slightly bulging, as though about to rupture. T. — 1.

Post-mortem examination: Entire disorganization of interior of eyeball. Conjunctival sac and optic nerve present firm connective-tissue union. Muscles firmly attached. Vascularity of reimplanted eyeball good. Cornea has remained insensitive. There has been no implication of the other eye, and no rise of temperature or apparent interference with general health at any time.

Case 14.—White doe (pink eye). Operated March 3d. Removed R. E. and reimplanted it. Chills or convulsions during anæsthesia. Bandaged and covered with flannel.

Fourth day: Has displaced bandage so that eye is partly exposed. Hence dressing removed. Moderate amount of discharge upon compress. Lids very much swollen; stitches were still in place and were removed. Cornea is decidedly hazy. Nictitating membrane seems to have sloughed away. T. — (slightly).

Sixth day: Stitches in conjunctiva were removed. The bandage had been left off. Ocular movements good. T. — 1. Cornea more opaque and iris cannot be seen through it. Pericorneal vascularity present.

Tenth day: A portion of the cornea corresponding to the central elliptical portion has become dry and yellow; peripheral portion has cleared up some, and yellowish reflex is seen from within. T. — 1. Cornea has remained insensitive.

Post-mortem examination: Eyeball slightly atrophied; on section found to be disorganized; no pus. Nerve firmly united by connective tissue, also globe to conjunctival sac. Muscles firmly attached and vascularity of globe good. The other eye has remained unimplicated throughout, and there has been no elevation of temperature, no apparent interference with general health at any time.

Case 15.—Small black buck, broken leg. Operated March 4th. Removed R. E. and reimplanted it. Bandaged and covered with chamois.

Twelfth day: Discharge has soaked through chamois covering. Bandage removed. Dressings soaked through; discharges sweet. All sutures have come away. Eyelids slightly swollen. Cornea slightly hazy, but iris can be seen distinctly. T. n. Good ocular movements.

Vascular zone around edges of cornea. Washed out with bichloride solution (1 to 10,000) and rebandaged.

Nineteenth day: Removed bandage. Slight discharge between lids. Cornea slightly hazy; iris can still be seen distinctly. T. n. Washed out and rebandged.

Twenty-sixth day: Condition of eyeball the same as when last noted. Cornea has cleared up a very little. Washed out and rebandaged.

Thirty-sixth day: Condition of eyeball still as favorable as at last account. Conformation good. T. n, Cornea still hazy, but smooth. Iris can still be seen. Pericorneal vascularity excessive. Ocular movements good. The other eye has remained unimplicated. There has been no elevation of temperature nor apparent interference with general health at any time. Cornea of reimplanted eyeball has remained insensitive.

Case 16.—Half-grown black buck. Operated March 6th. Removed R. E. and inserted R. E. of another rabbit of equal size and age. Bandage and chamois applied.

Seventh day: Has succeeded in removing bandage entirely. There has been a moderate amount of discharge. Stitches in eyelids have come away. Cornea is smooth, hazy, but iris can be seen distinctly. T. n. Ocular movements good. Vascularity of pericorneal conjunctiva is good. Washed out and rebandaged.

Twentieth day: Chamois has not yet become discolored excepting by some discharge which had formed a crust at the anterior portion of the flannel bandage. Cotton compress is soaked through and has been displaced downward; there is considerable muco-purulent discharge between lids. Eyeball of good conformation. T. n. Cornea smooth, but hazy, of a bluish-white color, clearer in centre than at periphery, which latter portion is so dense that iris can hardly be seen through it. Cornea is surrounded by a vascular zone, consisting of blood-vessels passing over from the conjunctival sac. Washed out and rebandaged.

Twenty-fourth day: Bandage removed. Condition same. Washed out and reapplied bandage.

Thirty-fourth day: Bandage having become soiled was removed. T. n. Eyeball of good conformation. Cornea smooth, hazy, but slightly less than at last note, so that iris can be indistinctly seen. Cornea has remained insensitive. Other eye has remained unimplicated and there has been no elevation of temperature nor apparent interference with general health at any time.

Case 17.—Large white doe (pink eye). Operated March 6th. Removed R. E. and inserted R. E. of another rabbit of large size (blue-black iris). Bandage and chamois applied.

Fifth day: Everything has progressed favorably to date, the bandage having remained in place and not become soiled. To-day small vesicle appears on the nictitating membrane of the sound eye. There is no elevation of temperature nor interference with health. Bandage seems to be rather tight.

Eighth day: Vesicle has disappeared from nictitating membrane of other (sound) eye, but it is still reddened, and eyeball bulges somewhat, so that it is apparent bandage is on too tightly. Bandage has become displaced and inner canthus is exposed. Bandage removed. Lid very much reddened and œdematous and held together by stitches; the latter were removed. Moderate amount of discharge between edges of lids, is sweet. Cornea is quite hazy and iris cannot be seen. There is the usual vascular zone around margin of cornea. Ocular movements good. Bandage was not reapplied on account of soreness of surrounding parts.

Tenth day: Redness has disappeared from both eyes. Cornea has become still more hazy, especially at central elliptical portion.

Thirteenth day: Central portion of cornea looks sloughy. T. — 1. Rabbit has had litter of eight young.

Eighteenth day: Cornea beginning to slough. Coloring matter of iris appears through cornea.

Twentieth day: Contents of eyeball have escaped. There now remains only a suppurating stump.

Twenty-fourth day: There is now merely a good-sized stump, non-suppurating, retracted into posterior portion of orbit.

Thirty-fourth day: Condition the same. Cornea has remained insensitive throughout, and other eye, temperature, and apparent general health have remained normal (excepting affection as a result of pressure of bandage, noted on fifth and eighth days).

Case 18.—Large black doe, pregnant. Operated March 5th. Removed R. E. and inserted R. E. of another doe, similar size and color. Bandage and chamois applied.

Tenth day: Bandage has become displaced and anterior canthus is exposed. Dressing has become soaked through, and there is considerable discharge (sweet) upon compress and between edges of lids. Stitches have worked out. Cornea is decidedly hazy, so that iris cannot be seen through, and its surface is rough. Ocular movements good. There is vascularity surrounding the cornea. T. — 1. Rabbit is in labor; bandage left off.

Fifteenth day: Cornea looks sloughy, especially central portion.

Sixteenth day: Contents of eyeball have escaped through perforation of cornea.

Twenty-fifth day: Nothing remains but a small non-suppurating stump at back part of orbit.

Thirty-fifth day: Stump still remains. There has been no sensibility of cornea at any time, the sound eye has not been implicated, and there has been no elevation of temperature or apparent interference with general health.

Case 19.—White (pink eye) buck. Operated March 7th. Removed R. E. and inserted R. E. of Case 20. Bandage and chamois applied.

Third day: Since operation animal has not eaten, and bandage, which is on too tightly so that he cannot open his jaws, was removed. Discharge moderate. Eyelids very much swollen. Stitches in lids were removed. Cornea quite opaque, of a bluish-white color, and iris cannot be seen. T. — 1. Bandage not reapplied on account of extensive excoriations.

Fifth day: Cornea more dense and looks softened, especially in centre.

Tenth day: Central portion of cornea looks sloughy. T. — 2. Pericorneal conjunctiva is vascular. Ocular movements good.

Sixteenth day: Condition the same. Cornea still insensitive. Other eye has remained normal, and there has been no rise in temperature nor apparent deviation in general health at any time.

Post-mortem examination: Eyeball is smaller than on insertion, soft, and on section found to be disorganized. There is firm connective-tissue union between eyeball and nerve, and globe and conjunctival sac. Muscles are firmly attached and vascularity of globe is fair.

Case 20.—White and black buck. Operated March 7th. Removed R. E. and inserted R. E. of Case 19. Bandage and chamois applied.

Sixth day: Bandage, pressing hard against base of ears, and having produced numerous raw surfaces, was removed. Very little discharge. The sutures closing lids were removed. Cornea hazy, but iris can be seen, and in anterior chamber is seen yellowish body, such as was seen in the other two cases in which pink eyes were employed. T. — 1. Bandage not reapplied.

Tenth day: Cornea smooth, but densely opaque. T. — 2. Vascularity around cornea. Ocular movements established. Considerable discharge.

Twenty-third day: There has been no change in the condition of the transplanted eye. It is small, cornea smooth and opaque. T. — 2.

Thirty-third day: Since last note cornea has perforated and some of contents of eyeball have escaped. There is now a fair-sized, non-suppurating stump remaining. Transplanted cornea has not been sensitive at any

time. Other eye, temperature, and general health have remained normal.

Case 21.—Reddish-brown doe. Operated March 12th. Removed R. E. and inserted R. E. of Case 22. Bandage and chamois applied.

Fourteenth day: Bandage well in place, and neither chamois nor flannel has become soiled. On removing dressings, small amount of discharge upon compress—perfectly sweet. Eyelids but little changed from normal. Conformation of eyeball good. Cornea only slightly hazy, and brown iris can be seen distinctly through it. T. n. Ocular movements good. Pericorneal vascularity present. Washed out and rebandaged.

Eighteenth day: Condition the same.

Twenty-eighth day: Eyeball still looks as favorable as at last note. Cornea slightly hazy, and iris can be seen distinctly. Cornea has remained insensitive. T. n. Other eye has remained unimplicated. There has been no rise of temperature nor apparent deviation from the general health at any time.

Case 22.—Black buck. Operated March 12th. Removed R. E. and inserted R. E. of 21. Bandage and chamois applied.

Four and one-half days: Bandage still on and in place. No soaking of dressing. Discharge moderate and sweet. Eyelids still closed by sutures; these were removed. Ocular movement present. T. n.

Post-mortem examination: Eyeball about same size as when inserted. Conformation good. Muscles attached. Sac united to globe by connective-tissue fibres. Nerve attached to globe by thin strip of tissue, which under microscope is found to consist chiefly of small round cells (granulation tissue).

Case 23.—Black buck. Removed R. E. and inserted R. E. of 24. Operated March 19th. Bandage and chamois applied.

Seventh day: Bandage fairly in place. Moderate amount of muco-purulent discharge. Lids moderately swollen. Conformation and tension of eyeball good. Pericorneal vascularity exists. Ocular movements good. Cornea is smooth, hazy in greater part of its extent, but translucent and iris can be seen distinctly. At upper and outer portion is a small area, more densely opaque and slightly yellowish. Washed out and rebandaged.

Eleventh day: Condition same as at last record, except that zone of denser and yellowish infiltration has extended very slightly. T. n. Washed out and rebandaged.

Twenty-first day: Cornea is still hazy, but evenly so, and denser infiltration at upper and outer part has disappeared. T. n. Cornea still insensitive. Iris can still be seen. Other eye has remained normal throughout. There has been no rise of temperature nor apparent interference with the general health at any time.

Case 24.—Black and white buck. Operated March 19th. Removed R. E. and inserted R. E. of 23. There was considerable hemorrhage, and after trying to find optic nerve and failing for some time, operation was completed as in other cases, except that optic nerve was not sutured. Bandage and chamois applied.

Seventh day: Chamois covering in place and not soiled. Considerable discharge, so that cotton and flannel have become soaked through; discharge is sweet. One of stitches in lids still remaining was removed. Lids swollen. Cornea bluish-white and hazy, and along line of junction of lids is a line of denser opacity. Iris cannot be seen through cornea. T. —1. Conformation of eyeball good. Ocular movements good. Washed out and rebandaged.

Eleventh day: Cornea densely hazy, but smooth. T. —. Pericorneal vascularity is seen. Washed out and rebandaged.

Twenty-first day: Cornea has cleared up slightly, but iris still invisible. T. n. Conformation of eyeball good. Cornea still insensitive. Other eye has remained unimpaired. There has been no rise of temperature or interference with the general health at any time.

IV. Peculiarities and Management of the Rabbit when kept for Experimental Purposes.—This seems almost too simple a subject to command any space in an essay, and yet, since nothing has yet been written on these points, they cannot fail to be of service to future experimenters.

Rabbits are undoubtedly the most convenient animals to experiment upon, when a large number are required and a certain size is requisite. They are less delicate than is commonly supposed—not one of the thirty-five rabbits made use of by the writer suffered from sickness or died from illness. The darker shades—brown, gray, and black, and admixtures of these with white—are stronger and more hardy than are the pure white (pink eye) ones; but even the latter cannot be said to be delicate.

They bear ether very well—only three out of thirty-five died from the anæsthetic, and these deaths occurred among the first cases, while none occurred among the last twenty-five. The crying-out suddenly during anæsthesia should be taken as a danger-signal, and serve as a warning to discontinue the ether, even though the cornea be still sensitive, for this sign was noticed in the three fatal cases, and in one in which the animal stopped breathing but was resuscitated by artificial respiration. About two ounces of ether serve for one hour's anæsthesia, and air must be allowed them from time to time just as in man. Some cases were kept under ether for three hours with no bad effects.

They are kept most readily in wire coops of three or four stories, partitioned so as to have a size each of 15 by 24 by 15 inches, or by making five or six stories a great many can be kept in a small space; each such compartment will hold one or two animals—male and female go best together, but should be separated after the latter has become pregnant and the abdomen begins to enlarge; two bucks also go well together, but during the first twenty-four hours they are apt to fight—until one has ascertained the sex of the other, and no longer attempts to mount him; two does usually fight for a day or two, but then go well together. The wooden floor of the compartments should be covered with hay, and this should be changed at least every second or third day, the coops swept out thoroughly, and kept dry at all times.

The fæces, occurring in small, oval, hard pieces, and having but little smell, and the urine being small in amount and odorless, the abodes are very easily kept clean; and if this is done, two or three dozen animals can be kept, as directed above, without creating anything more than a faint odor; this constitutes a very important advantage when laboratories are situated in private houses; and for a practising physician it is very convenient to have this room under the same roof as his office.

Another advantage over dogs and cats is that they make very little noise; they have a peculiar habit of stamping with their hind legs without any apparent purpose, but they usually sleep at night, and even by day this stamping does not make sufficient noise to be heard much outside of the room.

They are more docile than dogs and cats, and defend themselves usually with their claws only, though sometimes a vicious one will be met with, and several scars on the writer's hands testify to the fact that they do bite; very little local and no constitutional inconvenience resulted from the bite, however.

The bucks have an ugly habit of passing their urine and whirling at the same time, so as to throw the stream outside of the coop; this is probably a provision of cleanliness, but the experimenter will hardly appreciate it if they perform this manœuvre, as they sometimes do, when he attempts to catch them; though being alkaline, it is unirritating, yet disagreeable, even when it happens to get into the eye.

They are rather more expensive than dogs or cats, costing $1.50 to $2 a pair (in the city), but they breed so quickly that this expense is materially diminished in a short time; their food costs less than would that of

canines. To feed thirty-five dogs would require considerable outlay, but with rabbits the cost is very moderate.

The best diet for them consists of a piece of carrot about the size of a goose's egg, a leaf of cabbage, and a handful of oats, twice a day; the refuse salads and greens may also be utilized as their food. They should have as much water as they will drink once a day; this is contrary to opinions in some works on zoölogy, but they always are greedy for water and thrive on it; this is probably because the vegetables they get while caged are drier than those they gather in the fields, and furthermore are destitute of the dew which probably furnishes them naturally with moisture. When fed more than twice a day, their fæces may become soft, and then smell horribly; hence this restriction in the way of feeding should be practised.

When the female is pregnant and the abdomen has increased in size, she should be isolated—put in a coop in the darkest part of the room; a small box, large enough to put her young in, should be placed in the coop; this she converts into a nest by arranging hay and the fur plucked from her breast in a circular manner. The duration of pregnancy is about five weeks, the number of young from four to eight, and labor lasts usually two or three hours; the doe is very little affected by it. When the place is too well lighted, or she is prevented from building her nest, or the surroundings are not to her liking, she kills the young by stamping upon them; when she preserves them they suckle three or four weeks and then shift for themselves. Even before lactation ceases the doe is ready for the buck, and thus litters succeed each other very rapidly.

Rabbits should be handled by the ears; and when their death is desired, a sharp blow against the back, while thus suspended, dislocates the cervical vertebræ, and kills them at once or very soon.

They are not as stupid as is commonly supposed, and by patting and stroking them they can be made to keep quiet for a change of dressing, when it would be impossible to hold them by force. When two are together one helps the other in trying to remove the bandages; or, should the wound be an open one, one rabbit is frequently seen licking the other's wounds, as was the case in the transplanted eyes when no bandage was applied.

NOTE.—The writer wishes to acknowledge his indebtness to his friend, Dr. C. F. Mason, U. S. Army, to Dr. G. W. Vedder, and to his students, Messrs. Victoria, Clinton, Kemp, Michaelis, and Bartlett, for valuable assistance rendered in the performance of the series of operations.

208 EAST FIFTY-EIGHTH STREET.

NITROUS OXIDE AS AN ANÆSTHETIC.—M. Laffont, in a recent communication to the Paris Société de Biologie, stated that nitrous oxide is a most dangerous anæsthetic. He has since further prosecuted his experiments; and, at a subsequent meeting, confirmed his previous statements. He has found proof that nitrous oxide is not an anæsthetic, but an asphyxiating agent, as MM. Jolyet and Blanche have proved. When this agent is used by dentists to produce anæsthesia, hyperglycæmia and glycosuria result. M. Laffont has verified these phenomena by personal experience. He has also ascertained that in animals these results take place before anæsthesia, during the period of deep breathing.

THE CLINICAL HISTORY of King Alfonso, of Spain, has recently been published by his physician, Dr. Tomás Santero, of Moreno. He regarded the anxiety and excitement aroused by the dispute with Germany over the Caroline Islands as the remote cause of the final outbreak of miliary tuberculosis which led to the king's death.

THE BILL separating the Massachusetts State Board of Health from the State Board of Lunacy and Charity has become a law.

THE TREATMENT OF ACNE.

BY MAHLON HUTCHINSON, A.B., M.D.,

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MY attention was first called definitely to the use of the cold urethral sound in the treatment of acne by a shor, note in the *Journal of Cutaneous and Venereal Diseases* for November, 1884, referring to the success of its use in the hands of Dr. Sherwell, of Brooklyn, L. I. Previous to that time it had frequently occurred to me that great benefit might be derived from its use, but not possessing the courage gained from experience, and knowing the astonishment and repugnance that each and every patient would manifest—at least that I believed they would manifest—I had never put my theory to the test. I then believed, and still believe, that in ninety per cent. of cases of acne of all forms the exciting cause lies in the genito-urinary organs. Acne may be said to almost invariably manifest itself at the age of puberty, and this happens in such a large and overwhelming majority of cases that it must be considered more than a mere coincidence. I shall not attempt to explain how an irritation of the genital organs, due probably to hyperæmia, is reflected and manifests itself solely by an inflammation of the cutaneous, sebaceous glands; but very few physicians have not met with numerous instances of similar effects from similar seemingly remote causes. How many of us have not seen in children cases of partial paralysis of the lower extremities due to a redundant and tight prepuce? And when the simple operation was performed, how astonished the parents at the rapid recovery. The explanation of these effects can well be left to our pathologists, and of that I shall say nothing; but upon its practical bearing on our every-day experience I cannot insist too strongly.

Previous to November, 1884, I had borne in mind this cause—hyperæmia of the genital organs—and had treated all my cases of acne, with few exceptions, with potass. brom. and tr. gelsemii, accompanied by local applications of sapo viridis and ung. sulph. My success was moderate; but so moderate that the result was always doubtful, and my prognosis necessarily very guarded.

At this time I happened to have under treatment three cases of acne: Mr. Edward K——, acne pustulosa, very severe form; Mr. C. H. B——, acne papulosa et pustulosa, milder type; and Miss M. C. D——, acne papulosa, manifested chiefly by papules, with a few small pustules on forehead.[1] (These cases are fully reported hereafter.) I proposed to Messrs. K—— and B—— this method of treatment, explained to them my reasons for using the sound, and, both being sensible young men, they made no objection, but asserted that they would "do anything to get well." My success was startling even to myself, and I looked for the best results. In one week the improvement was very noticeable, and in six weeks I might have dismissed them cured to all external appearances. I, however, kept them under treatment for some two months; have frequently heard from and seen them since, and there has been no relapse.

In these cases, and, in fact, I may say, in all cases of acne, there is actually nothing to direct your attention to the genital organs. These two young men, Messrs. K—— and B——, would not acknowledge that they were of passionate natures, were not troubled with nocturnal emissions, had no fear of spermatorrhœa, and denied having ever practised masturbation or even having indulged in sexual intercouse. My experience has been that those much-to-be-pitied creatures with their nocturnal emissions, and their highly developed spermatophobia, suffer but little, if any, from acneiform eruptions. And *le raison d'être* is the nocturnal emissions. Let those

[1] I may here remark that the type of acne in the young woman is, as a rule, much less severe than in the young man; and that, whereas acne pustulosa is frequently met with in males, acne papulosa, with possibly a few pustules, is the prevailing type in females. The reason is obvious.

cease, and let the hyperæmia and irritability of the genital organs persist, and we shall find developed a most promising case of acne papulosa et pustulosa.

During the past twelve months I have treated nineteen cases of acne in the male and seven in the female. Fifteen of my male patients and six of my female have recovered completely; the other five for various reasons not continuing the treatment long enough to form an opinion of its success or failure. Thirteen out of the fifteen males were treated by the cold sound exclusively, I may say, of all other means, although I invariably give a placebo. My plan has been for the first three weeks to give some laxative preparation, accompanied by local applications of sap. vir., benzoin, and ung. sulph. The improvement, except in the mildest cases, is scarcely, if at all, perceptible. At the end of three weeks I propose the cold sound, and, after carefully and plainly explaining its action to patients, I have never yet met with a refusal to permit its use. One to two weeks only are needed to prove to them that I am right, and in from one to two months their skin will be free from acne, but with numerous scars left to remind them of the past.

And now for the treatment of acne in the female. The cold urethral sound would of course be useless, and its analogue, the uterine sound, would also for numerous reasons be out of the question, even if there were a probability of benefit to be derived from its use. But our object is to reduce the supposed hyperæmia and allay irritation, and this can be otherwise accomplished. All of our recent works on gynecology recommend most highly the hot-water treatment in all forms of inflammation of the uterus and its appendages. The hot douche, it is asserted, constringes the blood-vessels, reduces the hyperæmia, and produces an absorption of the products of the inflammation. If acne in the female is due to a hyperæmia and irritability of the uterine system, why will not hot water, in the form of douches, in like manner relieve this hyperæmia, and, ergo, cure the acne? It will, and it does. At least such has been my experience, and although my cases have numbered only seven, still six out of those seven have been successes, and that percentage of recoveries is much larger than other methods of treatment can claim.

This method of treatment by means of hot vaginal douches I have never seen nor heard mention of, and I believe I may lay claim to the originality, if any, in its use. I am satisfied beyond a doubt that it will be as successful in the treatment of acne in the female as the use of the cold sound has been in the male. The rationale and method may be explained to the mothers of the young-girl patients, and no feelings of modesty shocked by mentioning such matters to the patients themselves. It is easy of application, and not only accomplishes the object we seek, but also cleanses the vaginal passage. It may not be a generally known fact, but upon inquiry any physician can satisfy himself of its truth, that young maidens seldom, if ever, syringe the vagina. The natural secretions and the last few drops of the menstrual discharge, of a consequence, collect in the passage, and, if not unhealthy, this habit, to say the least, is uncleanly.

The following are examples of the cases referred to above, and it would be but needless repetition to report the complete list.

Case I.—Edward K——, American, aged twenty, single, clerk, applied for treatment for acne on September 30, 1884. Face was greatly disfigured, and almost covered with large acne pustules and numerous cicatrices, the results of former pustules. Habits perfectly regular, digestion good, bowels normal. Patient was placed on potass. br., grs. xx., tr. gelsemii, gtt. v., t.i.d., with directions to wash face with sapo viridis twice a week.

October 30th.—The bromide has been increased to grs. xxx., t.i.d., but with little, if any, benefit. Passed No. 14 Am. cold sound, finding great irritability of the urethra, the pain being almost unbearable as the sound entered the bladder.

November 1st.—Passed sound again, producing somewhat less pain.

November 4th.—Passed sound, a slight improvement being now manifested in the appearance of the acne.

November 7th.—Passed sound.

November 10th.—Passed sound. Great improvement is now noticeable; no new pustules having formed, and the old ones drying up.

From November 10, 1884, to January 12, 1885, the cold sound was passed twice a week, the eruption completely disappearing on December 11th; and on January 12th Mr. K—— was dismissed, with the caution, however, to continue the use of the sound for a month or so longer once a week. On September 7, 1885, Mr. K—— called on me for some advice relative to other matters, and his face was then clear of blotch or pimple, and, according to his statement, had remained so since his last visit on January 12th. He was not then using the sound, and had not been for the past six months.

Case II.—C. H. B——, American, aged nineteen, single, printer, visited me first October 4, 1884. Patient had been afflicted with acne vulgaris for four years, the eruption being situated on face—forehead and cheeks; consists principally of papules, with a few moderately sized pustules. No bad habits, digestion good, bowels regular. Treatment: Determined to try in this case arsenic, and put patient upon liq. potass. arsenitis, gtt. v., t.i.d., with external applications of sapo viridis.

October 30th.—Fowler's solution has been gradually increased until now patient is taking gtt. x., t.i.d. Some improvement is noticeable, but the arsenic disagreeing with his stomach, it was discontinued. Passed No. 15 sound, finding a very sensitive urethra, especially the prostatic portion.

November 30th.—Sound has been passed every other day since last date. Improvement was manifest after the third passage, and to-day patient is dismissed with no papules nor pustules, and only a few red blotches, reminders of his past troubles. Cautioned to use the sound twice a week for two months.

March 2, 1885.—Patient called, stating that he had had no relapse, and the appearance of his face affirmed the truth of his statement.

Case III.—Miss M. C. D——, American, aged eighteen, student, applied for treatment for acne papulosa October 16, 1884. The eruption situated chiefly on forehead, with a few papules on cheeks. General health good, bowels slightly constipated. Menstrual function regular, but considerable pain during first day of flow. Treatment: Externally, sapo viridis twice a week; also face-wash of tincture of benzoin simp., ʒ ss., aqua, ℥ j. Internally, a laxative, consisting of magnes. sulph., ferri sulph., and acid. sulph.

November 15th.—Improvement can be seen from past month's treatment, but not very great. Explained to the young lady's mother my theory of the cause of the disease, and advised hot-water vaginal douches every other night.

December 1st.—Quite an improvement manifest, and but few papules left. Hot-water douches twice a week.

January 2, 1885.—Has not had the sign of a pimple for past week. Hot-water douches once a week.

January 30th.—Dismissed patient, but advised that the douches be continued indefinitely once a week.

Case IV.—Miss G. B——, American, aged twenty, was sent to me from Colorado for treatment for acne papulosa. She visited me first on September 4, 1885. Her eruption was very similar to that mentioned in Case III., and the treatment instituted was the same, with this exception, however, that the hot-water vaginal douches were used from the first. Miss B—— remained in Chicago two weeks, when she returned to her home. The improvement had by that time commenced, and I considered it unnecessary for her to remain here. She

continued to use the hot douches up to October 26th, when she wrote me that the eruption had about disappeared. On November 26th she again wrote, stating that she had had no acne for two weeks, having used the hot-water douches twice a week since last date.

January 14, 1886.—A letter received from Miss B—— informs me that her improvement has remained constant, with no relapse.

Case V.—Benj. E. L——, American, aged twenty-five, single, painter, applied on September 5, 1885, for treatment for one of the worst cases of acne pustulosa it had ever been my fortune to meet with. Where there were no pustules on his face there were large, deep scars, and the man's life was a burden to him. The pustules were in some instances so large that they constituted veritable boils, and gave rise to considerable pain. General health perfect. I put him upon potass. br. and gelsemium, with local treatment of sapo viridis and acid carbolic.

September 28th.—Very little improvement. Passed cold sound No. 14, Am., finding the urethra very sensitive, especially the prostatic portion.

October 5th.—Great improvement already manifest, the sound having been passed three times only.

November 3d.—Very much improved. No pustules remaining, and only some indurations from former pustules. The cold sound has been passed every third day during past month, and the passage now gives rise to no pain.

December 1st.—No pustules remaining. Three or four indurated nodules. Dismissed patient, but ordered the use of the sound once a week for two months.

January 11, 1886.—Patient calls to exhibit his face and show me how well it has kept.

In conclusion, I may state that in the mild forms of acne, acne punctata, etc., local medication, accompanied by the internal exhibition of arsenic br., is sometimes sufficient for a cure; but in the twenty-five cases above referred to I have excluded these mild types, of which I have had during the past year under treatment probably a dozen. As adjuvants to the cold sound and hot-water treatments I have used the following prescriptions, but have derived but little, if any, benefit from them when used alone:

℞. Tr. benzoin simp..... ℥ ss.
Aquæ..... ℥ j.
M. Sig.—Face-wash.

℞. Sap. viridis..... ℥ viij.
Aq. cologn..... ℥ iv.
Solve et filtra. Sig.—To be used as cleansing face-wash.

℞. Sulphur precip..... ʒ ij.
Ung. vaselin..... ʒ vij.
M. Sig.—Apply once a day.

The above is a useful ointment, more useful, however, in acne rosacea than in acne vulgaris.

As a laxative mixture the following:

℞. Ferri sulph..... gr. xv.
Acid. sulph. dil..... ʒ ijss.
Magnes. sulph..... ℥ ij.
Aquæ.....ad ℥ vj.
M. Sig.—Two drachms half an hour before breakfast in half a glass of water.

Arsenic given in the following form is sometimes quite efficacious:

℞. Sol. arsen. br. (Clemens)..... ʒ ij.
Aquæ.....ad ℥ iv.
M. Sig.—One drachm t.i.d., gradually increased to two drachms t.i.d.

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THERAPEUTICS OF AMENORRHŒA.[1]

By H. J. BOLDT, M.D.,
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When the invitation was extended to me by your chairman to read a paper on amenorrhœa before this Section I felt very much at loss as to what I should write, because the subject in consideration has been so often written upon by able authorities that there is really very little or nothing left for one to do. It can, therefore, hardly be expected that I should give new ideas, nor will it be possible to give the subject a full consideration in such a short paper. I will, therefore, only state the general management of such cases which has proved itself most successful in my hands.

It is not within the scope of this paper to consider the pathological conditions productive of amenorrhœa any further than becomes absolutely necessary in the consideration of the treatment, as a full paper on the subject would be out of place before this Section.

Amenorrhœa, then, from physiological causes, as pregnancy, nursing, etc., also the amenorrhœa dependent on non-development or imperfect development of the organs of generation, and those cases requiring surgical interference will not be considered by me. It is my object to consider this symptom, for such it only is, in that class of patients where the physiological process of menstruation had been fully established, and then through some cause has been partially or entirely suppressed, from reasons which are not physiological; and those cases where the age of puberty has arrived, the organs of generation present, the monthly period wanting, and this absent physiological symptom giving rise to morbid symptoms.

Predominant of the class of patients who present themselves to the practitioner are young women between the ages of sixteen and twenty years, who will tell us that they have menstruated a certain number of times quite regularly up to within four months or a year ago, that then menstruation either ceased entirely or became more and more scanty until complete suppression was present. A large proportion of this class have only had a slight show now and then. The symptomatology of this class of patients usually is: that they are suffering from headaches, a tired sensation in all their limbs, in fact a general languor, loss of appetite, constipation, cardiac palpitation on the least exertion, and some occasionally even without any physical exercise, etc.

On looking at them we find these girls pale and poorly nourished; their muscles are flabby, the mucous membrane of the lips and eyelids colorless. Physical examination frequently reveals the characteristic anæmic murmurs, heart-sounds feeble, but sometimes somewhat accentuated, when at the time of examination they are afflicted with the symptom of palpitation. In some cases the face and lower extremities are œdematous and the abdomen bloated.

These patients present, then, either a well-marked example of anæmia or chlorosis, and they are usually under the impression that it is only the absence of the monthly period which causes their condition, seldom entertaining the idea that the latter symptom is dependent on their general condition.

Now in this class of patients it becomes our duty not to give emmenagogues, for these I believe are very rarely to be given in amenorrhœa with the expectation of deriving any benefit, except in a form of cases as will hereafter be described, but to improve their general condition.

We find that the majority of these patients belong to one of two classes of society—the young ladies whose sole occupation is study or reading romance, with little or no healthy exercise; their diet consisting of dainties, they never can (?) eat a substantial and nourishing

[1] Read before the New York Academy of Medicine, Section of Materia Medica and Therapeutics, April 21, 1886.

meal—they are the college students or the young ladies of society.

The second class, who have the same disorder, are the shop and factory girls, those whose occupation is also sedentary, and the food they eat inadequate to nourish the body. It may seem strange that I should separate these two classes of patients, who both present the same symptoms, dependent on the same cause, but it will be obvious to all that the patients of the latter class, who are compelled by circumstances to earn their maintenance with the needle or some similar sedentary occupation, cannot afford the same treatment which the other class can usually do, and which is generally put down in the books for patients suffering with amenorrhœa.

To effectually treat the first class of patients, they must at once be compelled to abandon their previous routine of living; they must have fresh air, exercise, and the proper food to bring about an equilibrium between mind and body. During the spring, summer, and autumn months a healthy, non-malarial country residence I consider most suitable for the majority of these cases. The exercise must positively be very guarded in the beginning; the body being in a state of starvation, the muscular structure is very flaccid, and immoderate exercise under such conditions is liable to bring about accidents to the pelvic organs which would be equally serious, if not more so, than the primary ailment. Hence I consider the much-lauded horseback exercise, which many authors recommend in their writings, frequently without giving the proper precautions, so that many whose experience has not taught them otherwise may be led to prescribe it indiscriminately, not only erroneous but dangerous in the commencement of the treatment, as is also the case with *long* walks. Any exercise, if not previously considered with the existing physical condition, and the amount to be taken told to the patient, may result in a flexion or a version of the uterus, with perhaps subsequent congestion or inflammation of this organ; besides, pathological conditions of the adnexa may result in addition.

The amount of exercise must be increased later to suit the condition of the patient. I consider a slow walk of from fifteen to twenty minutes' duration, several times daily, quite sufficient in the beginning.

A sponge-bath with salt water, night and morning, rubbing the skin briskly with a coarse towel, so as to establish the circulation more thoroughly, thereby bringing about tissue changes, has been universally recommended by me as an adjunct, with the exception of a few days before the expected menstrual flow, if this is known; never have I seen harm result from it. A few days before the expected flow, the patient should enjoy more rest, and a hot foot and sitz-bath is then used once daily. The clothing must be warm—flannel being worn next to the skin, and the foot-wear equal to the rest of the wearing-apparel.

The diet should consist mainly of milk, oat-meal, hens' eggs, and rare beef, given in small quantities but frequently repeated, according to the condition of the stomach—a glass of good Hungarian wine or Dublin stout, two or three times daily, with the meals. Among the vegetables, those containing iron in proportionately large quantity are selected, as beans, peas, lentils, etc. For the past two years Murdock's liquid food was used with benefit, if it could be retained on the stomach, but many patients are unable to take it because it produces such an effect, on account of the peculiar odor and taste. Bovinine is an artificial food which seems to take the place of the Murdock's food very well, and it does not possess the disagreeable properties; but as to its full utility I am not yet able to speak.

After each meal from a half to one hour's rest in the recumbent position should be enjoined.

For the torpidity of the bowels it is necessary to impress on each individual that a regular hour must be kept, whether or not a desire to go to stool is present; then a careful but complete massage of the abdomen twice daily, each kneading from fifteen to thirty minutes duration; for this purpose I have found Dr. Butler's electro-magnetic machine to answer admirably. In some cases where this treatment does not suffice, a pill containing ¼ gr. ex. nux vomica, ⅛ gr. aloïn, 2 gr. compound ex. colocynth, and half a grain of ex. belladonna, night and morning, has given much satisfaction.

The second class of patients in this variety take a walk early in the morning before going to work, also when through with their sedentary occupation in the evening. Gymnastic exercise for five minutes thrice daily, in the beginning, gradually increasing the amount to fifteen or twenty minutes three times per day. Instead of the expensive wine, they are ordered a glass of ale and porter, or beer, with their meals, which seems to increase the appetite in many cases. A small quantity of raw beef (two ounces), chopped fine and seasoned to suit the taste, is given three times daily, in addition to the other food, provided the stomach does not rebel against it—the beef containing more iron than any other variety of meat. Cake, pie, etc., is stopped entirely. At the time of the expected catamenia they stop the gymnastic exercise and their walks, and are kept in the recumbent position as much as possible during their free time. In other respects, the same treatment as for the first class is ordered.

We know from competent observers that iron is necessary to the formation of hæmoglobin and red blood-corpuscles, and that the diseases, anæmia and chlorosis, are dependent on changes in the blood. In each the proportion of red blood-corpuscles is diminished. We also know that the functional activity of iron takes place in the blood.

The interesting observations of Rabuteau and others, which show the change in the quantity of red blood-corpuscles under the influence of this remedy in these diseases, prove that it is absolutely necessary for this class of patients to get iron in some form. Yet it must be remembered that occasionally we meet with a patient who cannot take a certain preparation. Hence it is necessary when we meet with a case of this unusual idiosyncrasy, to search over the long list of preparations until the one is found which can be taken. The citrate of iron with quinia answers in the majority of cases, and has the advantage that the small quantity of quinia therein contained acts somewhat as an appetizer.

Iron is, consequently, *the* remedy which is invariably used in one or the other form. I will put myself down on the list with those, however, who insist that it should be used in small doses, the larger doses being apt to produce gastric disturbance by mechanical irritation. Frequently have I observed patients who did not improve, but on the contrary got worse, that is, they developed intestinal disturbance, while taking large doses, from twenty to thirty drops, of the muriate tincture of iron, and these same patients being ordered four to five drops of the same food, for as such we must consider it, when used with a view of abating the pathological condition present in these cachexias, rapidly improve. Of course, whatever gastro-intestinal disturbance is present must be first overcome by suitable means.

In phthisical patients, when amenorrhœa is present, which usually causes much alarm, it is well to impress upon them very strongly that the absence of menstruation need not cause the least disquiet, and by giving treatment directed to the pulmonary disorder, in addition to such general treatment as may be indicated and already spoken of before, we can occasionally succeed to re-establish the function for a longer or shorter time, and no doubt the patients often feel better for it.

In the amenorrhœa frequently present in plethoric patients, I find the dietetic treatment for the plethora, daily baths, plenty of methodical exercise, and the use of electricity, to be of the best service. The variety of electricity, whether faradic or galvanic, or whether the positive

or negative pole is used interiorly, is probably immaterial, although one case where faradism alone had been used unsuccessfully for two months was finally cured by the adjuvant of the constant current. The case was as follows: A lady, aged thirty, began to menstruate at sixteen years; married when twenty years of age; no children; she had always been regular up to twenty-four years of age, the flow lasting four days. About this age she began to get very fat, so that her weight increased from one hundred and forty pounds to two hundred and ten pounds within two years; the latter weight continued nearly the same up to the time when I saw her. She had a slight show regularly every four weeks, when presenting herself to me, but its duration was only from two hours to a half day, very light color, watery, as she called it. The absence of the regular menstruation produced several unpleasant symptoms.

Permanganate of potass was given in one-grain doses after meals during the interval, and one week prior to the expected flow the dose was increased to six grains daily, with a warm sitz-bath at bedtime. The treatment had the desired effect of producing a flow of two and a half days' duration. At the next period, the treatment produced no effect. Then faradism was used, beginning three days before the expected catamenia, the negative pole in the uterus, and the positive pole over the region of the uterus and ovaries (my abdominal electrode is four inches wide, by thirteen inches long, thereby the whole hypogastric and ovarian regions are taken in by one electrode); the current used was as strong as could possibly be borne by the patient, the sittings being twenty minutes in duration. No change was produced. The next month the same treatment was instituted with like result. On the next occasion the galvanic current was used, interiorly the anode and externally the cathode, with the satisfactory result of producing a flow three days in duration; and the following month the same treatment increased the menstrual discharge to four days' duration. For three months I was enabled to keep the patient under observation without further treatment than the general hygienic and dietetic which had been instituted from the beginning, after the potash treatment was found to fail, with the information that the flow had been regular and normal in quantity and quality, and that the former inconvenient symptoms had abated.

As a rule, however, the result is not so satisfactory in amenorrhœa occurring in this class of patients.

Another variety of patients are those who, during the menstrual flow, are affected by some sudden grief, joy, or domestic disaster—in short, some emotional disturbance causes the sudden cessation of the monthly period.

In this form, I think, the treatment is, as a rule, effectual, if the patient applies early and the proper advice is given and obeyed. It is that three days before the next expected epoch the patient keeps perfectly quiet—in bed, if possible—the application of hot-water bags to the lumbar and hypogastric regions, and a hot foot-bath with a small quantity of English mustard in the water, once or twice daily, the bath of from fifteen to twenty minutes' duration. The patient then goes to bed again, and is covered with warm blankets so as to produce perspiration. Emmenagogues may be used, but they are usually superfluous. Frequently the flow may be brought on again by this procedure during the same period, if the patient applies for aid at that time. It is, of course, necessary, if possible, to overcome the emotional cause. The same treatment also holds good if the catamenia is suddenly suppressed by exposure.

In a limited number of cases these means are ineffectual; then a course should be pursued, consisting of massage, warm general baths, etc., and one of the emmenagogues—preferably permanganate of potash.

Another variety of patients of whom I shall speak are those in whom the menses have become suppressed under the influence of sea-air, and I know of no more effectual remedy for this than the last-named emmenagogue, as I have already stated in my report on this remedy at the last meeting. The manner in which it is used was also spoken of at that time.

The last form of cases which come under consideration, are those of whom I spoke previously, as having arrived at the age of puberty, the patients strong and healthy in appearance, the organs of generation appreciably well developed, nothing present which would require surgical interference, and the very scanty or non-appearance of the flow causing a series of uncomfortable symptoms. For these patients electricity and massage, together with an occasional warm bath, have been generally successful.

Clinical Department.

SUBCUTANEOUS USE OF MORPHINE IN INFANTILE CONVULSIONS.

Dr. C. S. Scofield, of Boston, reports the case of a child eighteen months of age, previously healthy, whom he had been called to see on account of eclampsia. The child had been in convulsions for two hours and had been given emetics, hot baths, and mustard to the feet, without any benefit. The writer at once administered one-eighth grain of sulphate of morphine hypodermatically, which was repeated at the end of twenty minutes—no effect having been produced by the first dose. This was also followed by no improvement, and a third injection was administered twenty minutes later. This was effectual in controlling the convulsions, and by the expiration of an hour from the time of administration of the first dose the child was sleeping quietly. When seen the following morning the child had taken food as usual, and was apparently as well as ever.

ABSENCE OF ONE KIDNEY AND CARCINOMA OF THE OTHER IN A CHILD THREE MONTHS OLD.

Dr. J. W. Wood, of Port Richmond, S. I., writes that he was called to see a little girl three months old, suffering from diarrhœa. He prescribed paregoric and castor oil; the next day the child was much better, and he did not see her again for ten days. At that time he was again called and told that the little patient had not passed water for two days. The child was evidently in pain, alternately crying and dozing, the features were pinched, the pulse very rapid, but the temperature normal. The abdomen was greatly distended, the superficial veins were prominent and somewhat varicose. An attempt at catheterization was made, but was unsuccessful owing to the fact that the meatus urinarius was much higher up in the vagina than normal. Hot applications over the abbomen were ordered, but no urine was passed. The child failed gradually and died three days later, having had complete suppression of urine for five days. The autopsy was made twenty-four hours later by the writer and Dr. John Wilson. The abdominal swelling had subsided. Upon opening the abdomen about a gill of serum was found. The spleen was normal. The left kidney was absent. On the right side was found a large firm mass, binding down the intestines, which upon removal was seen to be an enlarged and cancerous kidney. Its length was five inches, its other diameters three inches. The ureter was enormously dilated, and was seven inches in length. The bladder was hypertrophied, contracted, and empty. Dr. Wood says that he has been able to find records of only fifty cases of single kidney, but in view of the fact that operations for the removal of a diseased kidney are becoming more frequent he would advise the catheterization of the ureters in every instance as a preliminary measure.

ESCAPE OF A BILIARY CALCULUS THROUGH THE ABDOMINAL WALL.

Dr. J. W. Kales, of Franklinville, N.Y., relates the following case: The patient was a woman about fifty years of age, married, and very fleshy. About three years ago an abscess formed in the right hypochondrium, which finally opened and dischaged a large amount of pus. A fistula was formed and small quantities of pus drained away, for a year or more, at which time the patient came under the writer's immediate charge. Various expedients were tried to cause the fistula to close. The external orifice of the fistula contracted; but no progress toward a permanent cure was made. After some delay the orifice was enlarged with a knife in order that the discharge might escape more readily. Pus continued to flow from the orifice for two or three months; but as all propositions of treatment were refused by the patient, nature was allowed to take her course. Finally, after a night of intense suffering a biliary calculus was discharged. The fistula immediately closed, and the patient, for the past six months, has enjoyed better health than for a number of years. The calculus was enveloped in a layer of inspissated bile, was ovoid, about three-fourths of an inch in length, one-half an inch in diameter, and weighed, after desiccation, forty-two grains. The calculus had evidently ulcerated its way out of the gall-bladder through the abdominal parietes.

URINARY CALCULUS SLOUGHED OUT THROUGH THE PERINEUM.

Dr. W. T. Cheatham, of Henderson, N. C., writes: "A negro man brought me a urinary calculus of phosphatic composition, weighing five hundred and twenty grains, about the size and shape of a pullet's egg, the small end terminating in a neck-like extension one-fourth of an inch in diameter, and one-half an inch long. He represented it as having fallen from his little step-son's privates while walking across the floor about two hours previously. I immediately repaired to his place of residence, where I found a boy of eight years standing by the fire, eating, and manifesting little concern about his condition. He was a typical subject of the calculous diathesis—emaciated, cachectic, dwarfish—his corporal development not exceeding that of an average healthy child of two years. An examination revealed the following condition: A portion of the perineum, the entire scrotum, and both testes had been completely swept away by the destructive inflammation and sloughing consequent upon the passage of the stone from the bladder to the outer world. The penis had suffered almost annihilation; its connections to the rami of the ossa pubis and ischia were nearly severed, being attached by a narrow strip of integument, the body of the organ for three-fourths of its length being absent, and the prostate gland with its urethral connections sharing a similar fate. The index finger was passed into the bladder through the opening made by the passage of the calculus. Its mucous coating was found thickened and morbidly sensitive, giving some pain while passing the finger over its surface in search of concretions, none of which were found to exist, nature having rid that organ of its only specimen. Under the influence of strict cleanliness of the parts and of a tonic internally, the wound healed well, a bougie being left *in situ* to prevent extravasation of the urine. The boy was seen some months later, and it was found that the external opening had closed from neglect to pass the bougie, resulting in urinary infiltration to the extent of complete anasarca. Pulse feeble and 160; respiration labored, with a preternatural disposition to sleep. The opening was restored, about an ounce of urine escaping. Numerous small punctures were made with the point of a lancet over the body, buttocks, and thighs, from which the infiltrated urine freely escaped, emitting an ammoniacal odor. A cathartic dose of bi-tartrate of potash was administered, and directions given to let me know the day following if he was living. No message was received. Eight days subsequently, while on a visit to a patient in the same neighborhood, learning that the child was living, I called to see him. No sloughing had taken place, only a few of the punctures presenting an unhealthy condition. Prescribed a tonic, and ordered that the small sores be kept clean with a carbolized wash. I never saw him again, but learn that he died the summer following of acute dysentery. His early history was obscured by the ignorance of his parents, but I am informed that he inherited the diathesis, his father having died of gravel. His mother and step-father thought his trouble commenced when he was eighteen months old, as he suffered pain at that time, and ever after had a difficulty in passing his urine until the passage of the stone. I am of opinion, from the peculiar formation and the composition of the calculus, that it originated in the prostatic portion of the urethra, and its growth by accretion forced its vesical extremity into the bladder before the sloughing process occurred, which led to its extrusion from the body."

Progress of Medical Science.

Varicosities of the Lingual Vein as a Prognostic Sign.—G. Cecil Dickson, writing in the *British Medical Journal* says, that under certain conditions, especially in elderly persons, the ranine and lingual veins become remarkably dilated and varicose; often they are much enlarged and present many bulgings, which extend in a racemose manner to the edge of the tongue. From observation he believes that this condition indicates important changes in the circulatory system. In two cases in which this condition was marked, both patients eventually had cerebral hemorrhages. The lingual vein, being a branch of the internal jugular, will indicate a state of the blood-current in this vein, and thus show the condition of the entire intracranial venous system. Distentions and varicosities of the lingual will thus become associated with passive congestion in the brain sinuses, and thus point out the diseases that are liable to occur when this condition is present.

Expulsion of a Tape-worm by the Mouth.—Dr. E. Martel reports in the *Gazette des Hôpitaux* the following rare case: A lady, eighty-six years of age, who had for two years been taking scraped raw beef, experienced a slight indigestion one day after taking a glass of milk followed by a little red wine. During the vomiting which ensued she felt something strange in her mouth which she easily pulled out but could not determine its nature, as she was nearly blind. It proved to be a tænia twenty-six inches long, two-fifths inch wide at one end, and one-twelfth inch at the other. Three days later the patient passed from the rectum a worm forty-seven inches long, and a third fragment, twenty-four inches long, was passed the same way the following day.

Boracic Acid in Diabetes Mellitus.—Mr. F. A. Monckton reports a case of a boy, aged fourteen, suffering from diabetes mellitus, with all the symptoms in an aggravated form, who was apparently cured by the use of boracic acid in seven-grain doses three times daily. At first there were no stringent dietary regulations, and even in the latter part of the treatment only sugar, potatoes, and oatmeal were forbidden. Bread was eaten at the meals in the ordinary way. He gradually gained in weight, his health improved, and the sugar disappeared from the urine.—*Therapeutic Gazette* Jan. 15, 1886.

The Therapeutics of Hydrophobia.—Mr. William Curran, writing in the *Medical Press and Circular* on this subject, gives a list of some two hundred preparations which have been advocated at different times as curative of rabies.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, May 29, 1886.

A REVIEW OF SOME NEW REMEDIES.

AN occasional review of the numerous new remedies which are being poured upon the profession by industrious clinicians and enterprising pharmacists may not be without interest to our readers. A well-known European firm has recently sent out a description of some of these drugs, and, with some additions and more subtractions, it forms the basis of the following summary:

Absynthin is the bitter principle of *artemesia absinthium*. It is soluble in alcohol, but not in water. Given in doses of 0.1 to 0.25, twice daily, Roux has found it a good stomachic, improving the appetite and relieving constipation in persons who are chlorotic and in convalescents.

Sclerotinic acid, as prepared by Podwyssotsky, is a brownish powder obtained from secale cornutum. It keeps well, and in this respect is superior to ergot, whose therapeutic properties it represents. It is said to produce uterine contractions, and is a good hæmostatic. Bourneville has shown it to have no value in epilepsy. It may be given subcutaneously in doses of from 0.03 to 0.10.

Aseptol (formula, $C_6H_4OHSO_2OH$) is a 33⅓ per cent. solution of orthoxyphenolsulfate. It is recommended as a substitute for phenol and salicylic acid, whose antiseptic properties it possesses without being poisonous or irritating. It is soluble in water, alcohol, and glycerine. On account of its non-irritating properties it is said to be useful in ophthalmological practice. It is antiseptic in solutions of 0.1 per cent.

Boldin is a substance obtained from the leaves of *boldoa fragrans*, a non-deciduous plant growing in Bolivia and Chili. The alkaloid boldin is recommended to be used in cases of gall-stones and in bladder catarrh. It is also said to have hypnotic properties.

Hippurate of lime is a white salt, soluble in water, and is given in doses of 0.6. Poulet has recommended it in phosphaturia, and a number of writers have used it successfully in scrofula.

Cannabinon, dose 0.5 to 1.0 gm., and cannabin tannicum, dose the same, are preparations obtained from cannabis indica, and having an uncertain hypnotic power.

Cotoin verum ($C_{22}H_{18}O_6$) is a substance obtained from coto bark. The preparations of this bark have obtained considerable reputation in the treatment of diarrhœa, especially in marasmic states. Cotoin verum is soluble in alcohol and alkaline solutions, and is given in doses of 1.00 to adults and 0.05 to children.

Colchicein, from colchicin, the alkaloid of colchicum, has yet to be tried, we believe, in gout and rheumatism. The dose would be 0.001 to 0.002 gm.

Hazeline, from the bark of *hamamelis virginica*, is regarded as having some astringent and hæmostatic properties.

Helenin ($C_6H_{10}O$) is a kind of camphor, soluble in alcohol. It is strongly antiseptic, 1 part to 10,000 preventing decomposition of urine. Korab has used it in tuberculosis, malaria, and in diarrhœa. Valenzuela has used it in pertussis and bronchitis. Obiol has used it internally and externally in diphtheria. The dose is 0.01 to 0.03.

Osmate of potassium ($K_2OsO_4+2H_2O$) is recommended instead of osmic acid in neuralgia and epilepsy, and as a parenchymatous injection in goitres, lymphomata, and sarcomata. Internally it may be given in doses of 0.001 to 0.015 daily in the form of pills.

Naphthaline is a drug whose properties have been fully described in these columns. Its value in diarrhœa and in typhoid fever as a disinfectant of the intestinal tract is established. The drug is insoluble in water or alcohol, and is given in doses of 1 to 5 gms. daily.

Pyridin (C_5H_5N), a colorless, peculiar smelling drug, is used in the form of vapor for the relief of asthma. A teaspoonful may be poured in an open dish and allowed to stand in the room, and the patient breathes the vapor for twenty to thirty minutes.

Terpinhydrat and terebrine are substances just now much vaunted in the treatment of chronic bronchitis. Terpine is also used in chronic nephritis, in doses of 0.2 to 0.4 gm.

Salol is a compound obtained from phenol and salicylic acid, and it is claimed by Sahli to be superior to salicylic acid as an anti-rheumatic. It may be given in the same doses as salicylate of sodium, and although large amounts make the urine dark, the drug is said to have no toxic effect.

Hypnone and urethan are drugs which have been quite recently described in THE RECORD. Hypnone, dose ♏ iij. to vj., does not seem to be a very certain or agreeable medicine, but urethan, dose 1 gm., is recommended as a safe, fairly trustworthy, and not disagreeable hypnotic.

In the foregoing list we find that a number of alleged active principles have been obtained, and their use is recommended in place of the crude drug. So far as this can be safely done it means an advance in therapeutics, because it gives more accuracy and certainty to prescribing. Some of the other drugs may prove useful, but we find none which seem likely to create an epoch in therapeutics.

FURTHER PROGRESS IN BACTERIOTHERAPY.

SINCE Cantani published an account of his first experiment in bacteriotherapy about a year ago, reports have appeared in the journals from time to time of other attempts in the same direction, some of which seemed to be moderately successful, while others were apparent failures. The best of these, or at least the one related with the least apparent bias on one side or the other,

is that of Dr. Luigi de Blasi in the *Giornale Internazionale delle Scienze Mediche*, No. 3, 1886. Dr. de Blasi reports eight cases of well-developed pulmonary phthisis, treated during January and February of the present year, by inhalations of pure cultures of bacterium termo, unaided by arsenic, cod-liver oil, or any other form of internal medication. The inhalations were given by means of a steam atomizer, about six drachms (twenty-five cubic centimetres) of the culture-fluid being consumed at each inhalation during a period of five minutes. The results obtained in the eight cases may be summarized as follows:

In none of the cases did the inhalations, repeated twice a day and occupying five minutes each time, produce the slightest inconvenience. There was neither nausea, vomiting, nor cough.

In every instance the tubercle bacilli in the sputum were reduced in number, but in none of the cases did they wholly disappear. In one, however, after a gradual diminution, the bacilli suddenly reappeared in great numbers without any apparent cause.

In all the bacterium termo was increased in quantity during the continuance of the inhalations. The micro-organism was found in small numbers in the sputum, however, in every case even before treatment was begun.

In six cases the cough became less troublesome, and the expectoration was decreased in amount, although it preserved its muco-purulent character.

An increase of weight was observed in two cases, two of the patients lost flesh steadily, and in the remaining four no change was observed in this respect.

The fever was not lessened in a single case. As to the objective symptoms, there was not only no improvement, but there was even a deterioration in nearly every instance.

Six of the patients stated that they felt stronger and better while taking the inhalations.

This can hardly be said to make a very favorable showing for bacteriotherapy, although it is not sufficiently discouraging to condemn the method as utterly worthless. The experiments were conducted during the least favorable season of the year, when even at Palermo the weather is changeable and trying to invalids. Furthermore, the trials were made purely to determine the absolute value of the bacterium termo as a destroyer of the tubercle bacillus, and other therapeutic measures, whose efficacy is undoubted, were ignored in order not to vitiate the experiments.

Dr. de Blasi found by researches in the laboratory that cod-liver oil, Fowler's solution, quinine, salicylic acid, antipyrine, and various other drugs used in phthisis did not destroy the vitality of the bacterium termo, which preserved its power of reproduction when these agents were added in varying proportions to the culture-fluid. These substances would therefore not be incompatible with the bacterium termo, but would rather better the chances of success by improving nutrition, and enabling the patient to hold every point that was gained through the agency of the inhalations.

Fanciful as this method may seem, we do not feel ready yet to chant its requiem, but still less are we prepared to welcome it as a potent remedy for phthisis until it can point to much better results than it has yet been able to do.

THE RELATION BETWEEN RHEUMATISM AND CHOREA.

ALTHOUGH less frequent mention is made of rheumatism among the etiological factors in the production of chorea now than in former years, there are still many, especially among the French and English writers, who regard it as of considerable causative moment.

In a recent monograph, reprinted from the *Berliner klinische Wochenschrift*, Dr. J. Prior attempts to prove that the relationship supposed to exist between these two affections is a purely imaginary one. After reviewing and comparing the mass of statistics collated by preceding writers, he adduces the results of a study of upward of one hundred cases observed by himself. In 94.5 per cent. of the cases of chorea there was neither history of previous rheumatic affection nor any signs of valvular trouble in the heart. Four of the patients gave evidences of old cardiac disease, and one had had pains in the right hand and fingers, possibly rheumatic, two weeks before the choreic symptoms were manifested. This author concludes, therefore, from his studies, that the coexistence of endocarditis and chorea is of too frequent occurrence to be regarded as anything more than a coincidence. Furthermore, chorea occurs with greater frequency before the fifteenth year of life, while rheumatism is less common at this period than later. Chorea also attacks girls by preference, and rheumatism, while by no means sparing females, is met with rather more often in males.

In seeking for the etiological factors in any given disease negative facts are often of even greater value than positive ones, and a few sets of figures showing the non-existence of a certain supposed cause will offset a much larger number on the other side seemingly giving support to such a relationship. And this is the case, we believe, with regard to chorea, and it is more than probable that rheumatism is of little or no moment in the production of the disease. The evidence that embolism is a cause is equally insufficient, and we are forced to content ourselves, in the present state of our knowledge, in regarding chorea as one of the pure neuroses, dependent upon no ascertainable anatomical lesion.

DR. HOLMES IN ENGLAND.

IT is a just source of gratification and pride to the American profession that Dr. Holmes should be received with so much warmth and hospitality during his present visit to England. Dr. Holmes, while more a man of letters than of medicine, has nevertheless always continued closely associated in work and sympathy with our profession, and has done perhaps more than any other to give an intellectual and literary status to us upon this side of the water. American medicine therefore takes to itself some of the honors that are being paid to her distinguished representative now in England.

The occasion is aptly seized by *The Lancet* to lament the decline in literary talent and culture, and in social standing, among doctors of the present day. Dr. Holmes will leave no successor, nor are there many even of the scholarly type which he represents. The rage to-day is for something practical, for skill in technique, and we are indifferent to the graces of scholarship or to an adornment of sound learning. We forget that, after all, "The

One Hoss Shay" will live longer than Virchow's "Geschwülste."

Yet perhaps our contemporary is a little pessimistic. We would be more positive if it unfortunately had not illustrated its point by the painfully inelegant English of "welcoming him *in our midst.*" We live, however, in the belief that the rank and file of doctors are better now than they used to be, and if we have not a second Holmes, perhaps there may yet in coming years be raised up someone worthy to be ranked with him.

THE EXTINCTION OF GOITRE.

DR. WILLIAM WEBB recently read a paper before the Midland Branch of the British Medical Association "Upon the Derbyshire Neck," in which he advances the opinion that enlargement of the thyroid gland is a disease which, under the modifying influences of an advancing civilization, will become extinct. Goitre is occasioned, he says, by increased function of the thyroid gland, which causes a true hypertrophy of it. Upon the theory that the natural function of the thyroid is to supplement an impeded respiration, such as would occur during sleep, during pregnancy, while carrying heavy burdens, or when suffering from any other mechanical restraint, he bases his interpretation of the occurrence of goitre in Derbyshire. The girl approaching womanhood works for her bread in the Derbyshire cotton mills, walking several miles over steep hills before six o'clock in the morning to her work, lives in a feculent atmosphere, works ten hours a day, and tramps back to her home at night. Goitre is common among those who are deprived of nourishing food and among those who intermarry. It is not confined to those who drink water of any special character.

In closing the paper the writer states that goitre is much less prevalent than it was thirty years ago, and yet the miners drink the same water. They get better wages, which means more nutritious food. The railway connects the goitrous districts with adjacent towns, so that the people travel more, see more, and intermarry much less than formerly. If the decrease of goitre continues in the same ratio as in the last generation, endemic goitre will soon disappear from Derbyshire.

A PROPOSED "PASTEUR INSTITUTE" IN NEW YORK CITY.

THE project of establishing an institute in this city for the treatment of persons bitten by mad dogs seems to be seriously agitated. We learn that Dr. Valentine Mott has brought over from Paris a rabbit inoculated by Pasteur. This rabbit died on May 16th, and another one inoculated from it died on May 24th, and inoculations are to be continued *secundum artem.* The proposed "Pasteur Institute" is reported to be already organized, and an appeal to the public for $5,000 is to be made. It would be only just, both to the public and the medical profession, that some authentic information be furnished as to how well qualified the gentlemen composing this organization are to carry out their purpose. The technique, as is well known, is difficult, and involves a thorough knowledge of all Pasteur's views and methods of work, as well as no inconsiderable amount of time.

It was authoritatively stated a short time ago, that Pasteur was for the present unwilling to have any other institute established than that in Paris. Considering all this, and the fact that the prophylactic value of the method is still not demonstrated, it would be well for the organizers of the "Institute" to give some more definite assurances as to their capacities and purpose.

THE DISINFECTION OF RAGS.

THE disinfection of rags is now claiming a great deal of public attention. The principal reason for this appears to be a difference of opinion between the rag importers and the health authorities as to what is necessary in the premises. The special committee of the Chamber of Commerce appointed to investigate the matter have been taking testimony *pro* and *con*, with the promise that some definite conclusions will eventually be reached. A similar inquiry is being carried on in Boston with a like end in view. The necessity for this is becoming more apparent as the present methods of rag disinfection are impartially scrutinized.

So far it is quite apparent that there has been manifested an inordinate zeal on the part of the health authorities to prove that superheated steam is the best, if not the only, disinfectant for the purposes named. Resolutions of sanitary conventions to this effect have been repeatedly published, and strenuous efforts have been made to create public opinion in its favor. Curiously enough most of this work has been done by a very few gentlemen, who have, all other things being equal, shown a great interest in guarding the public health. Without attempting to associate cause and effect, it has been shown that all these efforts have culminated in the employment of a patented process for applying the steam. It is unfortunate, to say the least, that such coincidences should be the basis of a charge of interested motives on the part of some of the parties concerned. This is to be deplored, as all such measures intended for the protection of the health of the people should be above suspicion. It is not, however, our purpose at present to discuss this part of the question. Scientifically we can view the present method of steam disinfection from the standpoint of its utility. In so doing it will be well to consider certain facts which are well established in the history of epidemics, and which have not been shaken by any evidence brought out in the investigations now being carried on.

Disinfection in the bale, as at present adopted, is of no use. It is impossible by merely thrusting a perforated screw into a bale to force steam equably and effectively into every portion of it.

This has been illustrated by a very interesting and conclusive experiment tried in Boston. The importers caused to be introduced into different portions of bales when originally packed for importation, self-registering thermometers. These bales were afterward subjected to the steam disinfection at the port of entry, which was Boston, and the results as shown on the thermometers were carefully noted, giving a range from 212° F., in one instance, down to 85° F., the average being 109° F.

Such a temperature, if it accomplished anything, would be in favor of propagating the disease-germs rather than

of destroying them. Yet, as we understand it, this is the method so strenuously advocated by the signers of resolutions, and so persistently enforced by the health authorities of New York, Boston, and Philadelphia.

It may be proper, in this connection, to consider the fact that no one has been able to produce an authenticated case of cholera coming from rags, a fortunate circumstance, in view of the inefficient method of disinfection.

Disinfection by any process to be thorough requires the unbaling of rags. Practically this is impossible at the port of entry. Aside from other considerations the cost would be too great. But it is recommended, and justly too, to admit rags from countries not affected with contagious diseases, and in cases of suspicion or doubt to disinfect the exterior of the bales before unloading, and that when the rags are unbaled at the mills they shall be properly disinfected under the supervision of the local health authorities.

This would make the local authorities responsible, and if a case of contagious disease broke out in a paper-making town, the responsibility would be fixed upon an officer on the spot, who could at once apply a remedy.

By the present system, it is almost impossible to fix the blame in case of the appearance of contagious diseases.

The health officers at the several ports of entry through which rags were coming to the mill would disown the responsibility.

Again, it is a curious fact that there is no case on record of a contagious disease being started in a paper-mill by foreign rags. On the other hand, there are numerous instances in which disease, such, for example, as small-pox, has been traced to domestic rags, which are not subject to any disinfection. If, however, disinfection were carried on in the proper towns, it would be much easier for the health boards to protect their towns against the entry of disease in this way.

These measures could not fail to prove satisfactory to all concerned, and be ample protection for the people in all cases of doubt. Superheated steam when proprerly used might accomplish this, but as at present employed it is utterly worthless.

ANOTHER PATHOLOGICAL LABORATORY TO BE BUILT.—We learn that Dr. C. N. Hoagland, of Brooklyn, who is a member of the Board of Regents of the Long Island College Hospital, will soon begin the erection of a laboratory on Henry Street, directly opposite the hospital. It will be known as the Hoagland Laboratory of the Long Island College Hospital, and will be planned after the general style of the Carnegie Laboratory, on Twenty-sixth Street, in this city. In addition to its medical and scientific departments the laboratory will contain a library and a museum. The students of the Long Island College Hospital are to have free access to the new building.

SEVERAL SEWERS in Detroit have been choked up all winter by the hulls of vessels lying up against them.

THE BEST THING yet discovered for sea-sickness is port.

News of the Week.

THE OHIO STATE MEDICAL SOCIETY will hold its forty-first annual meeting at Akron, O., on June 2, 3, and 4, 1886.

DR. FRANK DONALDSON, JR., of Baltimore, was the author of the paper on the pneumatic cabinet before the Climatological Association, and not Dr. Donaldson, Sr., as stated.

DEATH OF M. LEGRAND DU SAULLE.—Legal and mental medicine has sustained a severe loss in the death of M. Legrand du Saulle, physician to La Salpêtrière. His death occurred on May 6th, in the fifty-sixth year of his age. The deceased was author of a large number of works and monographs, and had just completed a systematic treatise on Legal Medicine and Toxicology.

PASTEUR'S INOCULATIONS up to May 4th had reached the number of 950, with 6 deaths.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY AND THE AMERICAN MEDICAL ASSOCIATION.—At a special meeting of this Society, May 18th, the following resolutions were adopted by a *viva voce* vote:

"*Resolved*, That the Philadelphia County Medical Society has learned with surprise of the action of the American Medical Association at St. Louis in excluding the duly elected delegates from this Society.

Resolved, That, as the subject has been referred back to this Society for final action, the legality of said election is hereby reaffirmed, and that while it would be perfectly right for the delegates to vindicate the validity of their election by a resort to legal measures, yet, in the interest of peace, such action is not urged.

Resolved, That in excluding the delegates from this Society the Judicial Council have violated the plain rules of evidence and of justice.

DR. WILLIAM T. CORLETT.—In a valuable article in THE MEDICAL RECORD of April 17th, on the "Bromide of Arsenic in Skin Disease," the author's name was given incorrectly as Corbett, instead of Corlett.

A SAFE AND SURE HYPNOTIC, according to Dr. K. Gunzberg, of Moscow, is chloral hydrate in doses of one gramme, given diluted per anum.

A KING WHO BELIEVES IN ANTISEPTICS.—The King of Servia, according to the journals, has issued the following: "Whereas it is irrefutably proved by science that the so-called antiseptic treatment of wounds yields more beneficial results than all other methods, we are pleased to order that henceforward the said antiseptic plan of treatment be solely employed in all the hospitals of our kingdom, and that corrosive sublimate and iodoform be used until our further disposition."

QUEEN MARGARITA, of Italy, has selected for her physician Signora Margarita Farne. This lady was one of the first Italian women who studied medicine, having commenced her course in 1870. She has practised in several hospitals in Turin and Milan.

PROFESSOR BINGHAM'S RESIGNATION.—An emergency meeting of the Trustees of the Vermont University was held May 20th. After a heated debate lasting six hours,

Dr. L. M. Bingham, the Professor of Surgery, for whose dismissal the students struck, offered his resignation, which was accepted.

THE COCAINE HABIT.—No drug with so short a history has gotten hold of so many victims as cocaine. We fear that the cocaine habit has a great and gloomy future before it. It is a habit more easily acquired and one which ruins body and mind even more quickly than does morphine. We make these comments *a propos* of a shocking case recently reported in a city in Central New York. A physician and his daughter were reported to have gone to a hotel and there have exhibited almost maniacal symptoms from the effects of cocaine. Both had been taking it in immense doses subcutaneously for some time.

AN ATTACK ON THE BUREAU OF ANIMAL INDUSTRY.—Representative Dr. John Swinburne, of New York, recently made a report attacking the Bureau of Animal Industry, his main point being apparently that said Bureau advocates the extinction of pleuro-pneumonia by slaughtering animals. If this is his only objection Representative Swinburne had much better keep quiet. If there is one thing upon which intelligent breeders and veterinarians are agreed it is that pleuro-pneumonia must be stamped out, and that it cannot be quarantined or inoculated out of existence.

THE NEW YORK MEDICAL MONTHLY is another candidate for journalistic favors, and comes to us in its first issue full of promise. It is edited by Dr. J. Leonard Corning, of this city, who will doubtless prove his fitness to conduct a journal. Among the promised contributors to it are many of the leading medical men of this town. The present issue contains practical articles by Drs. Otis, Agnew, Fox, and Schweig. We welcome it to our table.

THE LATEST SUMMARY OF PASTEUR'S WORK.—Up to April 14th, Pasteur had inoculated 688 persons, presumably bitten by mad dogs, with only one death. He had also inoculated 19 Russians bitten by a mad wolf. Of these nineteen, three have died from hydrophobia—about sixteen per cent. The usual per cent. of deaths from the bites of mad wolves is said to be about sixty-seven. Since April 14th, Pasteur has treated other Russians bitten by mad wolves and mad dogs. One of the former recently died from the effects of his wounds; one of the latter from hydrophobia, after having been submitted to treatment. This makes in all 720 cases treated, with a total of five deaths from rabies, despite treatment. Pasteur has found that the rabies resulting from wolf bites is the same as that of dogs, and only more dangerous, because the bites of wolves are more numerous and severe.

"THE OTHER SIDE OF COCAINE—THE BAD SIDE," was the subject of a paper presented by Dr. A. W. Calhoun, of this city, to the State Medical Association, in Augusta, last week. The doctor argues strongly against the use of cocaine in cataract operations by extraction. He stated that before he began the use of cocaine from ninety-five to ninety-seven per cent. of all cataract operations by extraction proved successful, and that in a large number in which cocaine had been used he had bad results. He has abandoned its use altogether in operations by extraction.—*Atlanta Medical and Surgical Journal.*

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 24, 1886.

DANIEL LEWIS, M.D., PRESIDENT, IN THE CHAIR.

DISEASE OF THE EAR IN CHILDHOOD.

DR. E. BENJAMIN RAMSDELL said that in preparing this paper he did so, not with the hope of offering anything new to the specialist, but to call attention of the profession, especially of the general practitioner, to the importance of early recognition and treatment of disease of the ear in childhood. The importance of disease of the ear was manifest from a brief review of the anatomical relations of that organ. The middle ear was by far the most frequently affected. Out of 383 cases of disease of the ear in children under fourteen years of age which had come under his observation at the Manhattan Eye and Ear Hospital, 346 were affections of the middle ear. Only one per cent. of the entire number were cases of disease of the internal ear and auditory nerve. In general we could divide disease of the middle ear into suppurative and non-suppurative cases. The diagnosis of suppuration of the middle ear could be made almost from the presence of a purulent discharge, for out of 227 cases of discharge from the ear, in only three was the source of the discharge situated in the external auditory canal.

Proceeding to clean out the ear, the physician would find perforation of the tympanum and a suppurative periostitis, the inflammation having crept up the Eustachian tube from a catarrh in the naso-pharynx.

The treatment should consist in cleansing the ear, the use of the hot douche, the use of a few drops of peroxide of hydrogen, dusting with iodoform or borax, solution of nitrate of silver or other astringent applications, inflation, treatment of the naso-pharyngeal catarrh. Dr. Ramsdell employed water of a temperature of 120° F. By the time it had passed through the syringe and reached the ear the temperature would have decreased to a degree to be comfortable to the patient. A fountain syringe, and not a glass or Davidson, should be employed. Dr. Dayton had had considerable experience with cleansing the ear with a few drops of a ten per cent. solution of peroxide of hydrogen, and believed it to be a very efficacious method. It was followed by the use of soft absorbent cotton. Dr. Ramsdell related the histories of a number of cases illustrating the efficacy of treatment, both in suppurative otitis media and in catarrhal inflammation, whether acute, subacute, or chronic. Cleanliness and not drugs was all important in the treatment of suppurative inflammations of the middle ear. A thick discharge in many instances would resist the syringe, and necessitate careful cleansing with the cotton-holder. Sometimes syringing of the ear might cause continued inflammation, some of the water being retained and acting as a poultice. Gentle inflation aided in cleansing the ear. First cleanse, then dry, and follow by the application of a healing, non-irritating powder in such a way that it would lay upon the surface in a thin film. Where there existed fine granulations or polypi to keep up the discharge indefinitely, it was necessary to effect their removal—the poylypi by the curette, and the granulations by astringents. In cases of acute catarrh of the ear the hot douche followed by gentle inflation was very beneficial. In the chronic and subacute forms it was very necessary to cleanse and make use of healing applications to the naso-pharynx, which was always the seat of catarrhal process. The glycerite of tannin, applied on the cotton-probe, was beneficial. The cases related were those of patients seen in private practice, and in nearly or quite all there had been healing of the drumhead, with relief to hearing.

Dr. D. B. St. John Roosa thought that this direct and simple statement of Dr. Ramsdell's practice in acute aural disease in children had not only received the respectful attention of the Society to-night, but that it would also receive the consideration of the profession as it might be presented to them through the press. He would that there were an Emmet or a Sims, or some one of the character and ability of Emmet and Sims, to impress the American people with the fact that diseases of the ear were almost as dangerous as diseases of the womb. The profession was lulled to sleep in the matter of diseases of the ear in childhood by the incontestable truth that a large percentage of the acute aural troubles in children got well in spite of the fact that they received either no treatment at all, or that which was utterly without intelligence. But there was a contingent—a fearful contingent—which went on to chronic suppuration, bad hearing, and, in some instances, to facial paralysis. There would be very little difference of opinion among those who had had experience in the treatment of these cases respecting the propriety of the treatment laid down by the author. The variations in the treatment would be insignificant. The principle of cleanliness and appropriate astringents and attention to the naso-pharynx would remain. There was a practice, formerly coming from the homœopathic schools, in which the treatment was largely by drugs internally administered. That practice had not the advantage, which was sometimes claimed for it, of being modern. It was as old as Hahnemann. He thought that the opinion expressed to-night that disease of the ear was chiefly local was strikingly true. And while every practitioner might watch the skin, the bowels, the ventilation, etc., yet most of the treatment would be local.

Dr. O. D. Pomeroy thought the speakers had been a little hard on the general practitioner. The ravages resulting from otitis in children were not always susceptible of being arrested. Statistics showed that many cases of deaf-mutism were due to scarlet fever, and all knew that otitis media occurring during this disease often destroyed the hearing in an extremely short time, and was not always susceptible of being arrested by treatment, especially after the period when the physician's attention had been called to it. Again, examination of the drum-cavity and drum-membrane in a child was a difficult thing, and it was nothing short of a fine art to treat certain cases of otitis in children as they should be treated. Dr. Pomeroy spoke of a method of gaining entrance to the middle ear and of establishing drainage by inserting a rubber tube on a probe; withdrawing the probe, the tube drew up into the canal. It was rarely necessary to open the mastoid in children, but when necessary it could be done by firm pressure with a knife. The danger to life in children from ear disease was much less than in adults in proportion to the severity of the disease. It was often impossible to recognize disease of the ear in young children. It was a good rule whenever a child complained of pain without apparent cause to examine the ear and see if the cause did not lie there.

The President asked whether there was not something which would take the place of iodoform in the treatment of disease of the ear. It was our duty, he thought, to make the treatment of disease as agreeable as possible. Iodoform was disagreeable to both the patient and his friends.

Dr. Simon Baruch had recently made it a rule in scarlet fever to pull the little patient's ears, and try to detect the first symptom of disease. He thought the reason why the general practitioner overlooked these cases was that the disease developed at a period when the child was better and the physician had either relaxed his efforts or ceased his visits.

Dr. David Webster, in answer to some questions by the President, said he used water for injection of a temperature comfortable to the hand, or as warm as the patient would bear it. He thought boracic acid was as good as iodoform, and it had not the disagreeable odor of the latter.

Dr. Joseph Andrews advised against iodoform in acute otitis, and also in chronic cases. It was irritating and insoluble, as was also tannic acid. Boracic acid was better.

Dr. Garrish spoke from the standpoint of the general practitioner. He thought it important to pay attention to the general condition, and as so many patients were scrofulous, to give constitutional treatment. Poultices did much to relieve pain, but it was also necessary often to employ tincture of opium in sweet oil. He advised also the application of leeches in the neighborhood of the ear.

Dr. Laurence Johnson said he was one of the general practitioners who a year or so ago heard the voice crying in the wilderness, had given heed thereto, and gone to the specialist to learn what he should do to help diminish the unfavorable statistics pertaining to ear disease. He was able to testify to the benefit to be derived from following such advice as had been given in the paper of the evening. He gave instructions to the nurses in a certain institution in which there were cases of suppurative ear trouble not of an acute character, to cleanse the ears with the warm-water douche. The nurses who had charge of the girls followed his instructions, and every patient showed improvement after the treatment. As to the boys, his advice was not followed, and they all remained in the condition they were. In the early stage of acute otitis media he employed douches, leeches, and allayed pain by two or three grains of morphine to a drachm of glycerine. He thought injury resulted from continuing the douche too long It should not be repeated as long as the boracic acid remained dry.

Dr. Leszynsky related some cases in which the patients complained of symptoms not at all referable to the ear, and in which the ear trouble was not suspected until after the discharge took place. Here the attending physician could not be blamed for not recognizing the ear disease early.

Dr. Messenger thought a good deal depended upon the constitutional treatment, especially the diet. If children were properly fed on proper food they would get well of almost any disease. He approved of the hot douche and of hot poultices. He regarded iodoform as worse than useless; in fact he did not believe it was good for anything in any disease except to stink, and he had never known its odor to be destroyed. Cocaine in the adult had lessened the pain in the ear, and had done good. Rubbing the skin, and keeping it clean seemed to renew the life of children.

Dr. Holcombe had been amazed at the success of the author in healing the drumhead after it had been opened by suppurative inflammation. He thought much harm resulted from too often syringing the ear in these attacks. The Politzer method was also capable of being dangerous. He exhibited a rubber tube consisting of two parts united by a glass tube, which he used for sucking out the purulent matter. The glass portion enabled one to see his danger before drawing the pus into the mouth. He then applied a weak solution of borax.

Dr. Ramsdell closed the discussion, and said he thought a thin film of iodoform blown upon the diseased surface of the ear resulted in benefit, and could not cause irritation or prevent exit of the discharge. As to the healing of drumheads, he had even seen them grow up, as it were, in chronic cases in which there was what was called the cicatricial drumhead.

The Society adjourned until the fourth Monday in September.

A Bill to regulate the practice of veterinary medicine and surgery has recently been defeated in the Ohio House of Representatives.

STATE SANITARY CONVENTION,

UNDER THE AUSPICES OF THE PENNSYLVANIA STATE BOARD OF HEALTH,

Held in McCaull's Opera House, Philadelphia, May 12, 13, and 14, 1886.

WEDNESDAY, MAY 12TH—FIRST DAY.

THE President, WILLIAM PEPPER, M.D., LL.D., opened the session and introduced Robert E. Pattison, Governor of Pennsylvania, who delivered an address calling attention to the importance of such conventions, and the necessity for education of the public as to the importance of sanitary measures.

DR. BENJAMIN LEE, Secretary Pennsylvania State Board of Health, read a paper on

AN EPIDEMIC OF DIPHTHERIA TRACED TO ITS SOURCE.

The epidemic referred to occurred in Pittsburg in the fall of 1877, affecting that portion of the city known as the "south side." This portion of the town is built on a flat and on a hill rising rapidly behind it. In the lower portion the sewer had but little fall, and as a result became filled to a large extent with filth. The sewer extending up the hill acted as a ventilator, carrying the offensive gases to the houses on the elevated portion. Many of the houses were entirely without traps. Immediately preceding the outbreak there were several heavy showers, filling the sewers and causing the forcing of sewer-gas into the houses. The disease developed and was most marked in the houses connected with this sewer.

REV. G. D. STROUD thought that the sewer system should be done away with, and earth-closets and destruction of foul matters by fire.

Dr. Carl H. Horsh read a paper insisting upon the necessity of physical education.

DR. HENRY F. FORMAD, of Philadelphia, read a paper on

TESTS FOR ORGANIC IMPURITIES IN WATER.

The influence of the water upon the health of the community is one of the best indications of its purity. After referring to the difficulties and objections pertaining to chemical tests—these are only quantitative, and give no information as to the character of the organic matter—the presence of bacteria in water was then spoken of. The number of bacteria is an indication of the quantity of organic matter present. The test which he recommended was the use of culture substances, a few drops of water being added to the sterilized albumen, and the quantity of organic matter estimated by the rapidity of the development of the bacteria. In reply to a question, Dr. Formad stated that it was probable that injurious organic matters might be present without the presence of bacteria.

DR. F. S. WILSON, Lazaretto Physician, read a paper on

THE IMPORTATION OF FOREIGN RAGS.

This question calls for attention at this time. If we accept the germ theory of disease, old rags afford an excellent culture substance for these germs. In order to avoid danger from this source, he recommended that no rags be admitted without they had been thoroughly disinfected before shipment; or, what he thought better, the rags should be reduced to pulp before shipment.

DR. WM. TAYLOR, Health Commissioner of Boston, stated that in Boston no rags were admitted without being subjected to disinfection in the port of Boston, under the supervision of the Board of Health. The method found most satisfactory was that by superheated steam. This process is insisted upon even where a certificate of disinfection accompanies the cargo.

DR. A. N. BELL, of New York, considered rags the most dangerous of all articles of commerce. Up to recent times rags were considered so foul that it was not worth while to try to disinfect them. It has been asserted by those interested that rags never produced any diseases, and that the rags were cleaned before being shipped. The first process to which rags are subjected is that of cleaning, in which fifteen per cent. of the weight is lost. The ships may become the carriers of disease and may contaminate the cargo, so that rags which have been disinfected before shipment may again become infected. He advocated the use of superheated steam as a means of disinfection. Dr. Bell offered a resolution, which was adopted, that the Convention indorse the plan adopted by the Board of Health of Boston, and recommend its adoption by other ports.

Dr. D. W. Jeffries, of Chester, Pa., read a paper on

THE HEATING AND VENTILATION OF PUBLIC SCHOOL BUILDINGS.

Dr. Albert L. Gihon, Medical Director of the U. S. Navy, read a paper on

ECONOMIC SANITATION.

Dr. J. Lowry Sibbett, of Carlisle, Pa., read a paper on

NARCOTIC APPETITES.

DR. LAWRENCE WOLFF, of Philadelphia, delivered an address on

OUR DRUGS AND MEDICINES.

His examinations led him to believe that, as a rule, the drugs manufactured in this country were pure. The handling of drugs should be entirely restricted to physicians and druggists. As a rule, the accusations made against druggists were shown to be unfounded.

EVENING SESSION.

Hon. Erastus Brooks, of West New Brighton, N. Y., read the first annual address, on

THE OBLIGATION OF STATES AND CITIES

to preserve the health of the people.

THURSDAY, MAY 13TH—SECOND DAY—MORNING SESSION.

The first paper was by DR. FRANK WOODBURY, of Philadelphia, on

PHYSIC-TIPPLING AND MEDICINE-BIBBING.

He referred to the rapid increase in the consumption of such drugs as the bromides, chloral, opium, etc. It is said that of chloral hydrate one ton a day is consumed in England and America. He then spoke of the causes of this increase. A large portion of the death-rate among children was attributed to the abuse by the parents of medicines acting on the nerves. The injurious effects of patent medicines were considered. In conclusion, he recommended:

1. The examination of all proprietary medicines by a Government or State Commission of experts, who shall have the power to permit the sale of such as are harmless or especially likely to prove serviceable, and to prohibit the sale of all which are peculiarly liable to do injury, and those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese Government several years ago, and has been found to be of great service in that country.

2. The instruction of the public to properly estimate drugs, and to regard every unknown medical agent as dangerous and endowed with capacity for harm. Let them escape the caustic criticism of Molière upon those who pour medicine about which they know little into bodies about which they know less, in order to cure disease about which they know nothing at all.

Dr. Henry Hartshorne, of Philadelphia, read a paper on

CONTINUOUS PREVENTIVE DISINFECTION OF HOUSE-DRAINAGE.

He first referred to the experience in an epidemic of diphtheria and scarlet fever, in which large quantities of sulphate of iron and burning sulphur were used in the sewers. Following this there was an almost absolute cessation of the disease. It may be that, although such substances do not destroy the bacteria, they may neutralize the products of bacteria, which by many are supposed to be the cause of the results which are seen.

We need to destroy all filth in which these germs multiply, and to neutralize the products of their growth. This should not be done spasmodically but continuously. Recently an apparatus has been introduced by which this may be accomplished. It is connected with the bowl of the water-closet, and supplies a strong solution of chloride of zinc at the rate of twenty drops per minute. This prevents all decomposition. The chloride of zinc has no effect upon lead and iron. The speaker thought that if this system could be introduced throughout the city of Philadelphia epidemic diseases would almost entirely disappear.

The following papers were also read at the morning session: "The Relations which the Topography of Harrisburg, Pa., bear to its Drainage and Sewerage," by Dr. Hugh Hamilton, of Harrisburg; "Healthy Dwellings," by Dr. V. C. Vaughan, of Ann Arbor, Mich.; "The Majesty of the Law of Sanitation," by Rev. J. Andrews, of Chestnut Hill, Pa.; "Elevation of the Standard of Supplies," by Mr. H. Wharton Amerling, of Philadelphia.

Adjourned.

AFTERNOON SESSION.

Dr. C. W. Chancellor, of Baltimore, read a paper on

HEREDITY AND OTHER PECULIARITIES AFFECTING HEALTH AND LONGEVITY.

This was followed by a paper by Dr. H. C. Wood, of Philadelphia, entitled

HYGIENE OF OLD AGE.

Leaving out of consideration deaths from accidents, fevers, lightning-strokes, and other more or less preventable causes, the man who is so built that he is equally strong in all his parts lives out his appointed days. Excessive strength in one part is a veritable source of danger. The athlete perishes because his over-developed muscular system perpetually strains and finally wears out the heart or lung, which was originally constructed for a muscular apparatus of half the power of that which is artificially built up. The large proportion of mankind die early on account of some local weakness. Human age is not to be accounted by years. In some individuals the general tissues are older at fifty than in others at one hundred. Many of the cases of so-called neurasthenia and nerve exhaustion in men and women, with sudden or gradual breakdown at forty or fifty, apparently from overwork, are really cases of premature old age, and they are to be treated in precisely the same manner. A large proportion of early deaths are the result of some feeble organ being originally endowed with a longevity less than the rest of the organism.

The man who enjoys fair health at seventy-five has probably been built upon the principle of the famous "One-horse Shay," described by our inimitable Holmes, and he should be treated as a wise man would treat such a venerable instrument of progression. The principle involved in such cases is that of protection, and especially protection from strain of any feeble part. Exposure to inclement weather, especially to high winds, is injurious, by throwing a great strain upon the heart, and this may result in sudden death, or, if it does not, may lead to a fatal pneumonia. Emotional disturbance, as the sudden receipt of good news, may have a like result. Medicines that perturbate and measures that bring relief by inducing a violent local action are to be avoided; at the same time incipient disorders should, if possible, be arrested at once.

In regard to details, every old person should go over, with a wise counsellor, his whole method of living and personal habits. The first question is in regard to food. The lost teeth should be replaced by artificial ones to facilitate chewing; but even then the food should be soft, easily comminuted, and readily digested The food should not be of a stimulating character. Many old people are injured by too much nitrogenous food. Milk and breadstuffs cooked with milk should form a large part of the diet of the aged individual. Excessive quantities of food should be avoided. Many old people are more comfortable, enjoy better health, and probably live longer for the use of wine. The habitual use of wine in youth or in middle age, in vigorous health is, I think, a harm rather than a good. But when the powers of life are failing, when digestion is weak, and the whole system feeble, one or two glasses of generous wine at dinner aids digestion, and quiets for the time being nervous irritation. The danger of the formation of any evil habits when a man is past seventy is very slight, and no conscientious physician need hesitate in recommending the daily use of alcoholic beverages to his patient.

In many cases of death the final result is due to cold and the failure on the part of the body to keep itself warm. In the old, the heat-making functions are exceedingly low, and few old people are comfortable in a room the temperature of which is lower than 80°, and abundance of warm but light clothing should be provided. There is no ordinary garment which compares in heat-preserving power with the buckskin jacket, and every man beyond the age of seventy should provide himself with such a garment. At first it should be worn only out of doors, but later, it should form part of the habitual underclothing. If worn as an under-jacket, it should be perforated; when there is a tendency to abdominal weakness or to pendulous abdominal walls, a flannel bandage should be worn. The mechanical effects of an abdominal bandage in affording support to the abdominal organs and vessels are well known.

Dr. Laurence Turnbull, of Philadelphia, in discussing the paper, referred to some of the causes of death in the aged. Too much exercise was one of these. When an old person walking up an elevation, or against the wind, feels an oppression in his chest or a pain in his back, he should stop. Exposure to night air is bad for the aged, and often leads to bronchial catarrh and pneumonia; a night-cap should be worn in bed. Flannel underwear should also be worn; exposure to the sun should be avoided in summer.

He agreed with the author of the paper in all points, with the exception of his recommendation of wine. If a stimulant is required at all, it should consist of alcohol and water in a definite mixture, rather than of wine, and withdrawn when the patient is able to take a sufficient quantity of stimulating food. Old age is no protection to the temptations incident to our physical natures; rather does it weaken the resistance to these temptations, and more than one medical man can recall painful instances where a youth of probity and a middle age of honor has been darkened by an intemperate old age. Mr. Wickfield, in "David Copperfield," is by no means an unreal character in life.

Dr. Russel Thayer read a paper considering the relative advantages of "Forced Ventilation and Ventilation by Heat."

Colonel George E. Waring, Jr., of Newport, R. I., made some remarks on the "Drainage and Sewerage of Cities and Towns."

Dr. Charles K. Mills read a paper on

THE INFLUENCE OF OVERWORK IN THE PRODUCTION OF NERVOUS DISEASES AND INSANITY.

The forms of insanity which are more particularly attributable to overwork are paretic dementia, primary dementia, and confusional insanity. Numerous examples of breaking down and insanity following exciting and prolonged political contests were given.

Dr. P. D. Keyser, of Philadelphia, considered the subject of "Defective Vision in School Children."

Dr. William M. Welch, of Philadelphia, read a paper on

VACCINATION.

He considered bovine and freshly humanized virus of about equal value, while the former was not open to objections which had been made to the latter. Long humanized virus had a slower incubation and ran a more rapid course, although the durability of the protection is probably not so great; but the short incubation recommends the long humanized virus for use where vaccination was performed after exposure to small-pox.

Evening Session.

Dr. Charles Smart, Major and Surgeon, U.S.A., read an address on

WATER-SUPPLIES OF TOWNS AND CITIES.

Friday, May 14th—Third Day.

Dr. John M. Keating, of Philadelphia, read a paper on

ARTIFICIAL FEEDING.

Examination of the census reports shows that the greatest number of deaths among infants occurs during the first year of life. The dreaded second summer does not exist. This fact suggests the necessity for an improvement in the diet of infants.

If mother's milk cannot be procured, cow's milk, properly prepared, is the next best. The proportion of casein must be diminished, while the proportion of sugar and cream and bone-forming matters must be increased.

As next in value the use of condensed milk was recommended, in the proportion of one part of milk to ten of water. To each half-pint of this mixture one ounce of cream should be added.

The following papers were also read: "The Water-supply of Philadelphia," by Dr. J. Cheston Morris, of Philadelphia; "Disposal of Human Excreta by Fire," by Dr. W. S. Ross, of Madisonville, Ky. (the speaker presented the model of an apparatus which he had devised for this purpose); "The Financial Aspect of Sanitation," by Dr. Alfred L. Carroll, of West New Brighton, N. Y.; "The Sanitary Significance of Sporadic Typhoid Fever," by Dr. Pemberton Dudley, of Philadelphia.

Dr. W. L. Zuill, of Philadelphia, then read a paper on

THE CARE OF ANIMALS IN THE PROPAGATION OF VACCINE.

He described in detail the method of caring for and operating on animals. The selection of the animal is a matter that requires careful consideration. He considered the ivory points, which should be double charged, as the best means of preserving the virus.

He had experimented with glycerine as a preservative for vaccine virus. The lymph is carefully collected, and to it is added an equal weight of glycerine. The mixture is then filtered. It has been found that this preserves its powers for *months*.

Dr. W. F. Hyer, being called upon, made some remarks with reference to the Mississippi State Board of Health.

The Convention then adjourned.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, May 10, 1886.

Stephen Smith, M.D., Chairman.

THE RESULT OF OPERATIONS IN FORTY-ONE CASES OF ABDOMINAL SURGERY AT BELLEVUE HOSPITAL.

The Chairman remarked that some time since he read a paper before the Academy "On the Results of Operations in Bellevue Hospital at the Present Time Compared with the Pre-antiseptic Period." He did not verify his statement with statistics, as he at first intended to do, and could have done but for want of time. He had received many letters from physicians in different parts of the country, as had also the editor of The Record, inquiring if facts would sustain the statements made in the paper. The paper of Dr. Polk is an answer to those inquiries so far as relates to one branch of surgery at Bellevue. It should, indeed, be regarded as a sufficient answer to every doubt which anyone entertained as to the accuracy of the entire paper. For it may be truthfully said, that wherever abdominal and pelvic surgery can be successfully practised, other branches of surgery ought to be even more successfully practised by the same methods. Aside from the intrinsic interest, therefore, which attaches to the subject of the paper about to be read, it will prove doubly interesting by its complete vindication of the antiseptic process so carefully followed in perhaps the most unfavorable atmosphere in the city.

Dr. W. M. Polk said his paper was based upon the cases of peritoneal surgery which had occurred in Ward 23 of Bellevue Hospital during the last three years, more than one-half of the operations having been performed during the last twelve months. They represented all the abdominal surgery done in that ward since he had had charge of it, and about one-third of all done in Bellevue during that time. All the operations reported had been done by himself excepting two, which were performed by Professor Lawson Tait at Dr. Polk's request.

The author then read the histories of only such cases as appeared to offer special items of interest. The first was a double tumor of the uterus, one a fibro-cyst being as large as a child's head and requiring much time for its removal on account of close adhesions. The patient, however, made a good recovery.

The second was one of Tait's operation, and owing to constant efforts at vomiting the intestines were much exposed; carbolic-acid solution was employed as was usual at that date, February, 1883. An abcess developed at the site of the incision, and the patient died of general peritonitis. Dr. Polk thought that but for the defective execution of the operation, recovery would have taken place.

The third case was one of single cystic colloid tumor, with thick fluid, containing papilliform growths, in a woman aged sixty-seven, who died six days after the operation of purulent exhaustion. The age of the patient and the nature of the tumor were the unfavorable features in the case.

The fourth case was one of fibroid tumor of the uterus, which caused excessive pain. The patient was addicted to alcohol, and her condition was poor, but she recovered after a sharp attack of peritonitis.

The fifth was a large fibroma of the left ovary and a cystic tumor of the right ovary the size of the fœtal head. Both tumors were removed, and the patient made an excellent recovery.

The sixth was a fibroid tumor of the uterus, removed by abdominal section, the patient recovering without any untoward symptoms.

The seventh was one of pyo-salpinx with cystic ovaries; the patient had had a number of attacks of peritonitis, each apparently threatening her life. The tubes and

ovaries were quite adherent; the patient had rather a sharp attack of local peritonitis after the operation, but recovered.

The eighth case was a subperitoneal hematocele filling the entire pelvis. Owing to the prominence of the tumor, Dr. Polk made abdominal section with the hope of stitching the sac to the abdominal incision, but after emptying it and washing out with bichloride solution, 1 to 5,000, the sac had so shrunken that it was impossible to do this, consequently a drainage-tube was introduced down through the abdomen. The patient made an excellent recovery.

The ninth case illustrated what could be done in the way of extirpating the tubes and ovaries where there were very firm and extensive adhesions. The patient had two cystic ovaries and a hydro-salpinx upon the right side. She recovered from the operation without an untoward symptom.

The tenth was a case of chronic inflammation of the fallopian tubes, with adherent ovaries, and the uterus bound down posteriorly in the pelvis. He made the usual section, and attempted to ligate the tube on the left side, but the ligature cut through. Other ligatures did likewise, and he was compelled to lift the uterus out of the pelvis and ligate the uterine artery and left ovarian vessels, which left the uterus to be nourished by the vessels from the right side. The patient had a sharp attack of peritonitis, but recovered.

The next three cases were cases of vaginal hysterectomy for carcinoma. The first patient, operated upon three years ago, died of sepsis which undoubtedly entered the drainage-tube. In the other cases, instead of using a drainage-tube he stuffed the opening left by the operation with iodoformized gauze, and the patients recovered.

The last case which Dr. Polk reported was one of removal of a spleen from the pelvis. The patient came to his ward about two weeks ago, suffering a great deal of pelvic pain from what he took to be a distended fallopian tube closely adherent to the right side of the uterus. When he opened the abdominal cavity he found extensive adhesions covering the whole roof of the pelvis, involving the sigmoid flexure, the vermiform appendix being drawn toward the centre of the pelvic brim. A kidney-shaped mass lay in the pelvis, its curve corresponding closely with the curve of the pelvis, resting between the bladder and uterus, its lower point being in contact with the anterior face of the uterus, the uterus being crowded down and backward into the hollow of the sacrum. The mass was enveloped in peritoneal tissue. At first Dr. Polk thought it was a displaced kidney, but on enlarging his incision and feeling for the kidneys, these organs were found to be in their normal position. He then removed the mass, which Dr. T. Mitchell Prudden had since examined and found to be the spleen in a condition of chronic interstitial splenitis and peri-splenitis. The operation was performed five days ago, and the patient was doing well.

Dr. Polk said further that eight of the forty-one operations were performed in the amphitheatre of Bellevue Hospital, before the class of the University Medical College, and all made an excellent recovery. Three or four were done in the general body of the hospital, and they also did well. The remainder were done in a private room in the pavilions. Cases of diphtheria and other contagious diseases were sometimes brought into one of the pavilions in which a part of the operations were performed, but before doing the operation the rooms were thoroughly fumigated. These patients did well.

Of the patients who recovered six had peritonitis; but three had it to a degree to cause uneasiness. Union by first intention was secured in all the abdominal wounds but five; in four of these a small amount of pus formed along the sutures. In one primary union of the peritoneum was obtained, but most of the remainder of the cut surface healed by granulation. Twenty-two were cases of Tait's operation; twenty-one recovered, one died. The one died, the author thought, as the result of a faulty operation, and not as a result of the surroundings. Hegar's operation of oöphorectomy for a fibroid was done in two cases, both of which recovered. There were eight ovariotomies, seven of the patients recovering. Abdominal hysterectomy for fibroma was performed twice, both patients recovering; partial ablation of the uterus for a fibro-cyst in one case, with recovery. Vaginal hysterectomy for carcinoma three cases, with two recoveries. Subperitoneal hematocele two cases, and one death. Abdominal hernia one case, with recovery. The last operation was the one performed on Thursday last, and the patient was doing well.

These results, obtained in a general hospital like Bellevue, many of the operations having been performed before a large class, encouraged the author to believe that they could perform abdominal section in Bellevue Hospital with as good results as anywhere else.

Dr. Polk made some remarks with regard to blood coming in contact with the peritoneum, and said that formerly he, as well as other surgeons, regarded this accident with almost as great apprehension as when pus entered the peritoneal cavity. But experience had taught us that probably a great deal more mischief had resulted from the manipulations necessary for the complete removal of blood from the peritoneum than the blood would have caused had it been allowed to remain. At present he followed the example of Mr. Tait, and paid no attention to the mere oozing of blood after the detachment of adhesions; for this he simply put in a drainage-tube during some hours after the operation to guard against the blood rising in the peritoneal cavity.

Dr. Paul F. Mundé said the author was to be congratulated upon the remarkably good results which he had obtained in peritoneal surgery in Bellevue Hospital. It had been said some years ago that Bellevue Hospital was a sort of pesthole, and the first successful ovariotomy performed there excited wonder. The results obtained by Dr. Polk and his colleagues showed plainly that such an alleged evil condition of things did not obtain at that hospital to-day. Unquestionably attention to antiseptic methods and absolute cleanliness, and also increased experince in abdominal surgery, explained why present results were so good. There was no reason, in his opinion, why Bellevue Hospital should not be as good a place to do laparotomy as any other place in the world, unless it were in a private hospital, or at the house of the patient, where there was freedom from all septic influences. He could not avoid the conviction, however, that there were times when public-hospital operations did not do so well, notwithstanding the precautions which might be taken to prevent septic infection. He had performed laparotomy thirty-one or thirty-two times at Mount Sinai Hospital, some of the cases being of the most serious nature, yet the patients recovered against his expectations. In some of the cases, however, the operation was comparatively simple, and was performed in a private room, yet the patients died of septicæmia. So far as was known, all possible precautions had been taken to prevent sepsis. While the results of peritoneal surgery had been comparatively good at Mount Sinai Hospital, the percentage of successes had not been quite so great as that obtained by Dr. Polk, notwithstanding the fact that the hospital was not so large a one as was Bellevue.

Dr. H. Griswold had performed abdominal section in four cases in private practice, in some the operation being done in tenement houses; three of the patients recovered, one died after some days of exhaustion.

Dr. Hoit, of Canandaigua, had been much interested in the paper. The excellent results obtained by Dr. Polk in gynecological operations at Bellevue Hospital recalled a paper read recently by Dr. Vander Veer, in which that surgeon gave the results of thirteen operations in the Albany hospital. The percentage of success was about the same, but Bellevue Hospital was a larger hos-

pital. Dr. Hoit thought the advantages afforded by a hospital in the way of increased assistance, instruments, etc., would more than compensate for the disadvantages of congregating patients in large numbers.

THE CHAIRMAN asked Dr. Polk how the spleen in his last case came to be in the pelvis.

DR. POLK said the history of the case threw no light on that subject. Dr. Prudden had told him that he had never seen a similar case.

DR. H. J. BOLDT had seen in German literature within a year the report of a case of displacement of the spleen below the umbilicus.

DR. MUNDÉ could not recall a similar case; he had one of displacement of the *enlarged* spleen downward.

DR. POLK, in speaking of the details of his operations, said he never used the spray, but he used plenty of soap and water and a solution of bichloride of mercury, 1 to 2,000 or to 5,000. The instruments were all cleansed by one nurse, who was made responsible for them. The sponges were cleansed at his home, and were carried to the hospital by himself; he also cared for the sutures. No person besides himself was allowed to touch the sponges or sutures except the house-surgeon; no hands entered the abdominal cavity except those of the operator and house-surgeon, and Dr. Polk made himself responsible for the cleanliness of the house-surgeon's hands as well as of his own. The wound was subsequently covered with iodoformized gauze. This personal attention to details he thought accounted for the successful results which he had been able to report this evening.

On motion of DR. DE GARMO the author was requested to read his paper at a future meeting of the Academy.

Correspondence.

THE DISINFECTION OF RAGS AND "DR. SMITH'S" PETITION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In view of the strictures recently published in the medical journals upon the course of numerous reputable physicians who have signed a paper declaring that disinfection of rags from foreign ports is a proper sanitary measure at present, a few words may be permitted by way of explanation and correction. In the first place, all who have read the paper in question will corroborate the statement that it in no way favors any *particular* plan for disinfection. The entire sum and substance of it all is that in view of the fact that cholera has thus early appeared in various places on the Mediterranean coast, this city is in greater danger of a visitation of the disease than it has been heretofore, and that no measures which can possibly be employed to prevent its introduction should be neglected.

Is there any "good-natured" physician, or otherwise, who would feel justified in refusing his indorsement of such a statement in view of all the facts as they exist to-day.

The safety of this community lies in the vigilance of the Health Officer of the Port, who is Dr. Smith. Is it desirable that he should continue to exercise the discretion vested in him by law according to his *own* judgment, or in accordance with the wishes of an interested faction of business men who have no responsibility to the public in this matter?

Grant, if you please, that Dr. Smith has recommended a process of disinfection which increases the cost of imported rags five dollars per ton. This is just a quarter of a cent per pound, and if importers find that tax too high and will cease importation entirely for the present, I believe the lives of our citizens would be far safer. London still prohibits the importation of all rags from Spain, and every medical or business man of New York will be clamoring for the same course here after the disease has once been allowed to slip through the quarantine establishment.

I am in no sense desirous of defending my own action in signing the petition, as I am convinced that the gravity of the situation justifies my course and that of all who have signed it. But there is danger that public sentiment, which is very often wrong, will be lulled into a state of mistaken security by the criticisms of Dr. Smith, and realize their error when it is too late to apply an efficient remedy. Very respectfully,

DANIEL LEWIS, M.D.

62 PARK AVENUE.

[There is no doubt that Dr. Lewis and the other gentlemen who signed the document did so in good faith, but still there was no guarantee against its use for the purpose of booming the present method of rag disinfection, which is perfectly worthless.—ED.]

SNAKE VIRUS AND HYDROPHOBIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The claims of the physician in Spain who has lately announced his *discovery* that inoculation with the virus of certain snakes is a preservative against hydrophobia in men and animals brings to mind the venerable saying, in another dress, "Il n'y a de nouveau que ce qui est oublié." The physician in question claims to have made a vast number of observations on dogs that have been bitten by vipers, and has found that they are incompetent to take the disease when afterward bitten by hydrophobic dogs. He claims that his experiments have proved entirely successful. I do not know whether the announcement of this curious treatment is likely to be taken advantage of by our lay journals to revive the hydrophobia scare, or that it is a matter which is likely to give the medical fraternity much concern; but it may be of some interest, from a historical point of view, to refer to the fact that in the *Journal d'Economie Rurale*, 1805, will be found the announcement of the method of M. Gauchi, Mayor of Reorthe, for preserving animals, and particularly dogs, from hydrophobia, which consisted in having them bitten by a viper previously bitten by the animal which was rabid; because, as he reasoned, the poison of the viper does not neutralize the poison of the hydrophobia if applied after the bite of the dog. His experience had taught him that dogs which had been bitten by rabid animals did not become rabid if previously bitten by a viper and a swelling had been produced.

Yours faithfully,

JOSEPH A. ANDREWS, M.D.

May 21, 1886.

THE VALUE OF MUSCULAR EXERCISE IN TREATMENT OF DIABETES MELLITUS.

TO THE EDITOR OF THE MEDICAL RECORD.

IN the discussion on the subject of the treatment of diabetes which occurred in the New York Academy of Medicine, on March 18, 1886, I took occasion to emphasize the importance of active and passive exercise adapted to the requirements of each case. I remarked, that so convinced was I of the value of this therapeutical measure, that I had adopted the method of compensating my diabetic patients for taking the prescribed exercise by a definite allowance of white bread (for which they all crave), graded according to the amount of exercise taken.

This treatment, based upon the well-known recommendation (empirical at that time) of Bouchardat, has suffered unmerited neglect, if we are to judge from the absence of any allusion to it in the discussion referred to. Indeed, one of the speakers, whose clinical experience is large, and whose opinions are justly esteemed, expressed the regret that, aside from the dietetic treatment, there is nothing but empiricism in the therapeutics of diabetes. In reply to this asseveration I felt called

upon to say that the recognition of muscular exercise is an important element in the treatment of this malady as the logical outcome of well-established physiological facts, and therefore its application is strictly scientific.

Physiology teaches that the liver and muscles are the most active agents in absorbing sugar from the blood and converting it into glycogen, which in its turn is utilized for the maintenance of the body.

In diabetes the glycogenic function of the liver is either in abeyance or greatly impaired, while the muscles also fail in a great measure to perform their function of disposing of sugar. We resort to the restriction of the sugar supply by diminishing or withdrawing those articles of diet which physiology has taught are sugar-producing. We possess no remedy which increases the glycogenic function of the liver, but we are in a more favorable position regarding the muscles. By increasing their functional activity we can stimulate the sugar-converting function of the interfibrillar substance of the muscles, and then we may dispose of a large portion of the excess of sugar circulating in the blood.

Clinical experience is fortunately entirely in accord with this deduction from the teachings of physiology. This fact has again and again been exemplified. It is nothing new; but its true import is unfortunately but too often lost sight of in the eager search for anti-diabetic, dietetic, or medicinal specifics. The subject of exercise is often dismissed by directing the patient to exercise in the open air without fatiguing himself. The insufficiency of this injunction is within the experience of every practical physician. It is a well-known fact that diabetics are, as a rule, loath to muscular exertion; lassitude is a common symptom, and something more than the mere suggestion is required to enforce the necessity of exercise upon these patients. Being based upon strictly scientific data, *the prescription of exercise should be as precise and exacting as that of the diet*, if we would obtain the legitimate advantages.

Dr. William Richardson, in his book on diabetes, furnishes us with a personal experience which all practical physicians will at once appreciate. He describes graphically how he was himself overcome by weakness and indisposition to exertion when suffering from diabetes.

"He could not walk a hundred yards without great fatigue; he frequently fell." "I began to take exercise regularly two or three times a day; wet or fine, I took it." "Gradually I gained strength, so as to be able to walk five or six miles a day without fatigue." "The exercise should be regularly sustained day by day; even in wet weather it should not be intermitted; of course great care should be taken against wet feet; it should never be carried to real fatigue; a feeling that exercise has been taken is the most that should be felt. To carry into effect regular and sustained muscular exercise requires great moral courage and energy, the languor and feeling of weakness are so great; but if the exercise be only carried out patiently and perseveringly the task will become not only more and more easy, will soon no longer be a task, but positively a pleasure."

I take occasion to again call attention to this point, because its importance, which I endeavored to emphasize in the description at the Academy, has since that time been again brought forward in the discussion of the same subject by the Fifth German Congress for Internal Medicine (THE MEDICAL RECORD, May 15, 1886, p. 573). Professor Stokvis, of Amsterdam, said: "He insists on muscular exercise, by *which alone* the percentage of sugar can be greatly diminished."

Professor Hartman said: "Alkaline remedies, the opiates, *active muscular exercise*, or muscular massage where the patient is not able to take active exercise, and observance of a good hygienic *régime* in general are the means he relies upon."

Professor von Mehring "had invariably noticed *considerable decrease, and even disappearance*, of sugar from the urine after prolonged active and passive exercise."

Professor Finkler "has the records of thirteen cases of diabetes, in which he succeeded in reducing the sugar in the urine from four hundred grains to one hundred and fifty grains and less per day by active and passive exercise, allowing small quantities of hydrocarbons. In some cases the sugar disappeared entirely."

In the discussion of the subject in the New York Academy of Medicine, referred to above, the writer's earnest advocacy of muscular exercise in diabetes was met by the argument from the principal speaker that it is very dangerous to make those suffering from the severe forms of diabetes take much exercise, although in ordinary cases ex rcise in the open air within the limit of fatigue is important and necessary; and another gentleman expressed himself wholly in accord with this view, as he had seen coma in children develop shortly after admission to the hospital, due to the fatigue and excitement, and in London it had been observed after long railway journeys.

Fearing lest these opinions may deter many from resorting to a measure which is so full of promise to the diabetic, I desire to reiterate what I said on that occasion, viz., that all valuable therapeutic measures are potent for evil as well as for good, and that a judicious selection of cases will eliminate possible dangers. That the latter have been exaggerated would appear from Professor Stokvis' essay, who says that diabetic coma *might* result from sudden and abundant production of acetone, etc., coming on *after unusual exertion—the fatigue of a long journey.*

Again, by a singular coincidence which demonstrates the great value of THE RECORD to the practical physician, the same number gives us in the able essay of Dr. Devlin important evidence on this point. On p. 545 Dr. Devlin reviews the histories of many cases of diabetic coma by Foster, Schmitz, Frerichs, Jaenicke, Jaksch, Quincke, and others. He says: "Among the important lessons drawn from these the most obvious is, that in them *the history of previous fatigue or over-exertion rarely appears*" (p. 549).

Without entering fully into this subject, which I propose to elaborate at some future time, I would ask a careful consideration of the clinical facts which I have here hastily brought together in addition to my personal experience.

SIMON BARUCH, M.D.

43 EAST FIFTY-NINTH STREET.

A SIMPLE METHOD OF KEEPING THE HYPODERMIC SYRINGE IN ORDER.—Dr. D. Tod Gilliam, of Columbus, O., writes: "A simple and efficient method for keeping the hypodermic syringe in order is as follows: Draw out the piston-rod, immerse the syringe in water, then push the piston home, when the chamber of the syringe back of the piston-head will be found filled with water which entered at the orifice through which the rod plays. This will not leak out, will keep your syringe in prime order, ready for any emergency, and will save money as well as annoyance by enabling you to use a syringe that would otherwise be discarded. As the device is so simple, entails no trouble, and the syringe being once filled need not be looked after for weeks or months if need be, I I thought it worth mentioning."

SPLENECTOMY GROWING IN FAVOR.—At the last meeting of the Medical and Chirurgical Society, London, Mr. Knowsley Thornton read a paper in which he related the particulars of two cases in which he had performed splenectomy. One ended fatally from internal hemorrhage following the operation. In the other, complete recovery ensued, but the girl acquired an enormous appetite. It had been noted in animals that the running powers and appetite were increased after the performance of experimental splenectomy.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 16 to May 22, 1886.

ELBREY, F. W., Captain and Assistant Surgeon. Sick leave of absence still further extended one year on surgeon's certificate of disability. S. O. 115, A. G. O., May 17, 1886.

CASTER, WILLIAM F., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about June 1st, with permission to apply for an extension of one month. S. O. 55, Department of Texas, May 11, 1886.

BANISTER, JOHN M., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon, Fort Canby, W. T. S. O. 75, Department of Colorado, May 8, 1886.

EWING, C. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Leavenworth, Kan., and ordered for duty as Post Surgeon, Fort Supply, Ind. T. S. O. 48, Department of Missouri, May 13, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 27, 1886.

LAW, H. L., Surgeon. Ordered to the U. S. R. S. Wabash.

HAWKE, J. A., Surgeon. Detached from U. S. R. S. Wabash, and wait orders to sea.

OGDEN, F. N., Assistant Surgeon. Detached from U. S. S. New Hampshire, and wait orders.

BAKER, J. W., Assistant Surgeon. Ordered for examination preliminary to promotion.

WOODRUFF, CHARLES E. Commissioned Assistant Surgeon in the Navy, May 17th.

HENRY, CHARLES P. Commissioned Assistant Surgeon in the Navy, May 18th.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 22, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
May 22, 1886.....	2	4	35	5	31	67	2	0
Deaths.								
May 22, 1886.....	0	2	12	5	1	30	1	0

A PLEA FOR RATIONAL THERAPEUTICS.—Under this title Dr. S. C. Dumm writes in the *Columbus Medical Journal* against agnosticism in therapeutics. He thinks that, while some diseases may eventually disappear if left to take their own course, almost all can be shortened or favorably modified by appropriate medication. Much permanent injury might be avoided by timely treatment, he asserts, which it would be criminal to withhold. The point made by the writer is enforced by the citation of several illustrative cases. There is little doubt that as much harm is done by a neglect of suitable remedies as by over-drugging. In medicine, as in everything else, there is a happy mean, to preserve which is the secret of success.

DR. HUTTON, OF FERGUS FALLS, MINN., ON DIPHTHERIA.—Dr. T. J. Hutton sends us some interesting facts concerning "Specific Treatment for the First Stage of Diphtheria." His opinions have been published previously in THE RECORD. He has treated, during the past five years, nearly two hundred cases of the disease. He regards diphtheria as a specific, septic sore throat; the typical form, unmodified by treatment, has three stages, viz.: First, a septic sore throat; second, laryngeal stenosis or sepsis; third, death from suffocation or sepsis. It is caused in man and beast by "crowd-poison," and the majority of attacks originate *de novo*. A sore throat from any cause makes diphtheria more easily contracted. The poison, once conveyed there, may develop deadly outbreaks in the cleanest and best-ventilated houses. The ultimate cause of diphtheria is waste body-matter eliminated in the breath. This body-waste or crowd-poison may return to the throat in gaseous form. In the region where Dr. Hutton practises the air is very pure, and the hygienic surroundings exceptionally good. He claims that his plan of treatment is specific—"not specially favorable, a sense in which this word is sometimes used, but infallible." The only limitations are that the disease shall be uncomplicated, and that the patient shall have been previously healthy. He claims to have controlled diphtheria, grafted on tonsillitis, in markedly scrofulous subjects. His plan of treatment is essentially as follows: Fresh air is to be obtained under all circumstances. If the weather is not too cold, he keeps patients out of doors. He has the body, especially the extremities, kept comfortably warm, and enjoins perfect quiet in the sick-room. In later stages hot-water bottles may be placed around the patient if necessary. At the very outset a careful and deliberate examination is made of the throat, and the pseudo-membranous spots are painted with a solution of nitrate of silver, containing twenty to forty grains to the drachm of water, applied on a small camel's-hair pencil. The painting operation is proceeded with slowly, care being taken that every affected spot is completely touched up. If gagging occur, it is well; it throws every chink and cranny of the throat into full view. The strength of the solution depends on the age of the patient, the severity of the case, and the condition at the time of the first visit. The number of applications may vary from one to thirty. The applications, if properly made, are painless, as they are made to necrotic tissue void of all feeling. It may be well to remember that applications made accidentally to sound parts give to such parts the appearance of pseudo-membrane. All patients old enough to do so are required to gargle with a saturated solution of chlorate of potash until the symptoms ameliorate. Where gargling is impossible, *e.g.*, with young children, the remedy is given internally. Where a case has already advanced to a stage of severity, iron and quinine are added to the potash. A laxative (preferably calomel and soda) is given at the outset. Concentrated nourishment and stimulants, if necessary, are essential. As a disinfectant, particularly in nasal cases, carbolic acid is used.

MALARIA AND SMALL-POX.—During an epidemic of small-pox in a town in Italy Dr. D'Ortensio observed that the course of the variola was modified by an intercurrent attack of malarial fever. A patient upon whom the variolous papules were well developed was seized with a typical malarial paroxysm. The eruption almost immediately disappeared, but upon the cure of the fever by quinine the papules again made their appearance, and the small-pox ran its regular course.

AID FOR PASTEUR.—The French Government has been asked by Pasteur for a subsidy of 2,000,000 francs for the establishment of a hospital, and for 50,000 francs a year to operate it. It is said that the authorities are in favor of giving him at least the latter grant. The Académie de Médecine has already voted a grant of 10,000 francs to his institute.

THE "SPOOL OF THE BREAST."—Dr. H. V. Hull writes, in the *Albany Medical Annals*, that he was consulted by an Irishwoman, who told him that her daughter was not well, and that she thought "the spool of the breast was fast to the spine." She explained that a girl in the old country had had similar symptoms, and was relieved by the application of a cupping-glass over the lower end of the breast-bone, by which process "the spool was loosened." The girl seen by Dr. Hull was suffering from indigestion. The writer subsequently learned from a friend versed in Gaelic that the word "speal" meant "sword," and therefore the "speal of the breast" meant the "sword of the breast," or the xyphoid cartilage.

THE USE OF ATROPINE FOR PURPOSES OF DIAGNOSIS.—Dr. Barraquer writes, in the *Boletin de la Clinica Oftalmologica*, in condemnation of the practice of employing atropine to dilate the pupil prior to examination with the ophthalmoscope, as he says much damage may be caused by its indiscriminate use.

THE TREATMENT OF ANEURISMS BY THE INTRODUCTION OF WIRE.—The comparative powerlessness of modern surgery to effect a permanent cure of considerable aneurisms as they occur within the body was markedly shown, says *The Medical Press*, at the last meeting of the Royal Medico-Chirurgical Society, when Dr. Cayley read a communication descriptive of a case of thoracic aneurism treated by the introduction of steel wire into the sac. The patient was a man, aged forty-eight, who entered the Middlesex Hospital June 5, 1885, a pulsating tumor having appeared in his neck five days previously, symptoms of thoracic aneurism having been present since November, 1884. Tufnell's treatment and large doses of potassium iodide were tried without result, and on June 24th Mr. Hulke introduced into the tumor, through a fine canula, forty feet of steel wire. Subsequently a second introduction of wire, thirty-four feet nine inches long, was performed by Mr. Pearce Gould, in an endeavor to arrest urgent symptoms, but death occurred soon after, during a paroxysm of dyspnœa. No constitutional disturbance followed either operation. The discussion which ensued on the conclusion of the paper was both instructive and interesting, and exhibited in marked contrast the different opinions as to the value of operative interference held by physicians and surgeons respectively. Dr. George Johnson's contention, however, that there is danger of local irritation, ulceration, and embolism, associated with the introduction of wire into aneurisms, was not borne out by the history of Dr. Cayley's case, although an instance was cited by Dr. Paul, from the records of the Madras Hospital, in which signs of inflammation were produced by the introduction of horse-hair. Mr. Barwell made a solid contribution to the discussion in the shape of a list of eight cases in which the mode of treatment in question had been adopted, all terminating fatally; but he contended that as yet the value of the proceeding could not be fully estimated. The most cheering view of the situation was taken by Messrs. Bryant and Holmes, who both succeeded in extracting crumbs of comfort from the seemingly hopeless accounts of successive failures; and Mr. Hulke, while condemning such methods as electrolysis and administration of ergot, also appeared to look forward with a certain amount of confidence to the future development of the plan of treatment by foreign substances in the aneurismal sac.

HEMORRHAGE FOLLOWING COITUS.—Dr. Lvoff reports in the *Russkaya Meditsina* a case of a newly married woman to whom he was called on account of a profuse hemorrhage occurring shortly after the first coitus. The hymen was ruptured, but this was not the source of the hemorrhage, as the blood was seen flowing in a steady stream from the mouth of the uterus. The writer believed the hemorrhage to have been due to active congestion of the uterus occasioned by the copulative act.

ERYTHEMA NODOSUM.—At a recent meeting of the Clinical Society, London, the somewhat well-known subject of erythema nodosum was brought to the fore by Dr. Stephen Mackenzie. Assisted by other workers, he has been able to collect particulars of no fewer than one hundred and eight cases. From an analysis of these he found that five females were attacked to every male, and that most cases occurred during the second or third decennial period of life, *i.e.*, during the age-period in which rheumatism is of most common occurrence. There were thirty-four cases (thirty-one per cent.) in which symptoms of rheumatism occurred, and twelve cases in which the patient had previously suffered from it. In twenty cases some definite cardiac lesion was made out. Dr. Mackenzie maintained that he was justified in concluding that erythema nodosum is frequently associated with definite rheumatic symptoms, also that heart disease (endocarditis) may arise during an attack of erythema nodosum, both in cases in which arthritis is present and in cases in which there is no affection of the joints, and that these conclusions justified the inference that erythema nodosum is frequently an expression of rheumatism, even when no other definitely rheumatic symptoms are present.

A NOVEL METHOD OF BLEEDING.—In a case of a woman suffering from very evident overloading of the vascular system, but whose friends objected strenuously to venesection, Dr. Coppinger resorted to aspiration of the jugular vein. The patient had been accustomed to receive hypodermic injections, and made no objection to the introduction of the needle of the aspirator. A sufficient quantity of blood was abstracted in this way, and the patient's urgent symptoms were relieved.

REGULAR POLYGLOTS.—Our esteemed contemporary, *The St. Louis Medical and Surgical Journal*, says that its editors read and translate, with fluency and correctness, French, German, Italian, Spanish, Norse (*sic*), Dutch, and Russian. Happy editors! We can but admire while we envy them. Norse was such a nice language.

QUINSY AS A RHEUMATISM.—At a recent meeting of the Chicago Medical Society, Dr. J. S. Knox read a paper in which he maintained that, in a large proportion of cases, quinsy is a rheumatic inflammation (*Medical and Surgical Reporter*). He was led to this conclusion from having observed the disease, in the vast majority of cases, in individuals of a decided rheumatic tendency; from the success of antirheumatic treatment, and from the similarity between the symptoms of quinsy and those of rheumatism.

THE UTILITY OF OPERATION IN CANCER OF THE BREAST.—Dr. D. Hayes Agnew says that it is very doubtful if, taking the general run of operations for mammary carcinoma, life is materially prolonged.

A RADICAL TREATMENT FOR MASTURBATION.—Dr. J. C. Pennington, of Andover, Mass., writes as follows: "I feel constrained to report a curious case of self-treatment which is worthy of the *Mikado*. The punishment was made to fit the crime in this wise: The patient, a boy of fifteen, being discouraged by his fruitless endeavors to free himself from the worst of all habits, deliberately selected the privy as the theatre of his operations, and, holding the offending organ by the prepuce with one hand, took aim with a small pistol, and shot it, with the other. The ball (22 calibre) entered on the dorsal surface; running beneath the skin it entered the glans behind the corona, emerged on its dorsal surface, and again penetrated the prepuce before making its final exit. At the sight of blood the boy's heroism evaporated, and he screamed for help. As usual the fair sex were most prompt in running to the rescue, and it was some time before a man arrived whom he could take into his confidence. Fortunately the urethra is not wounded, and a speedy recovery may be expected."

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 23 NEW YORK, JUNE 5, 1886 Whole No. 813

Original Articles.

CHRONIC STENOSIS OF THE LARYNX TREATED BY A NEW METHOD, WITH REPORT OF A CASE.

BY JOSEPH O'DWYER, M.D.,

NEW YORK.

CHRONIC stenosis of the larynx is one of the most unsatisfactory diseases that the physician is called upon to treat. Tracheotomy must be resorted to, sooner or later, to save the patient from a painful death, and, as a rule, in such cases the tracheal tube, with all its attendant discomforts and repulsiveness, has to be worn through life.

Various dilating instruments have been invented for this class of cases, notably by Morel-Mackenzie, Navratil, Whistler, and Schroetter. The metallic plugs or bougies devised by the latter have so far proved the most successful. To use them a tube in the trachea is necessary, but the method is slow, painful, and uncertain. These plugs are made of block tin, somewhat triangular in shape and about one inch and a half in length.

First tracheotomy is performed, then a plug of suitable size is passed through the glottis, and the lower end fastened in the fenestrum of the tracheal canula by means of a bolt, which takes the place of the inner tube. As the stricture is dilated the plug is removed by a string, which is left fastened to it, and a larger one inserted; of these dilators there are twenty-four sizes.

Before devising these short bougies Schroetter tried long vulcanite tubes, which protruded from the mouth and were held in position by the hand. But they could be kept in position only a short time, on account of the severe irritation and constant tendency to retching which they produced. He was therefore compelled to abandon their use.

Bosworth, after describing the different instruments just referred to, and the methods of using them, says:[1] "The treatment of laryngeal stenosis by means of any of the above-mentioned plans is necessarily tedious and protracted, involving, as a rule, a course extending over from twelve to eighteen months. Yet, when we consider the alternatives presented to the sufferer, of submitting, on the one hand, to this tedious process, and, on the other hand, to the terrible prospect of wearing a tracheal tube during life, it would seem that there should be no question as to the advisability of the treatment, provided that it offers any certainty as to the ultimate cure. Unfortunately, this cannot be assured. Schroetter has reported and exhibited a number of cases in which the gradual dilatation by his bougies has resulted apparently in a perfect and permanent cure. On the other hand, it should be stated that others have not usually attained the same uniform success in their efforts."

Although I have treated only a single case of chronic stenosis with my laryngeal tubes, I am fully convinced that they will prove infinitely superior to anything yet devised for the relief of this unfortunate class of sufferers.

In the use of these tubes tracheotomy is never indicated, and ether rarely. They are inserted through the mouth and rest solely in the larynx and trachea, the upper end being completely below the epiglottis. They facilitate rather than interfere with respiration, and permit the patient to swallow solids and semisolids, and, to a certain extent, fluids.

The tubes are two and a half inches long. A cross section presents an elliptical outline, with an antero-posterior diameter about twice that of the transverse. At the upper end of the tube is an expansion or shoulder called the head, which rests in the cavity of the larynx, and serves to prevent its slipping through into the trachea. The head has a posterior curve, to allow the epiglottis to take its normal position and to perform its functions. Immediately below the head is the neck of the tube, which has a very narrow transverse diameter and occupies the chink of the glottis. The rest of the tube, called the body, extends into the trachea, and has the shape of a double wedge to prevent its easy expulsion.

Mrs. Van A——, aged forty, contracted syphilis from a worthless husband twelve years ago, and since then the throat has seldom been free from ulceration. Two years ago the voice became husky, and she began to suffer from shortness of breath on exertion. These symptoms gradually increased, and for two months she was obliged to sleep either sitting in a chair or propped up in bed to almost a sitting position. She came under my care at the New York Foundling Asylum, December 5, 1885. Immediate tracheotomy had been advised a short time previously by one of our leading laryngologists.

She was losing flesh and strength. The voice was husky; and while the patient could breathe fairly well in a state of perfect rest, the least exertion induced severe dyspnœa, accompanied with stridor, and during sleep the respiration was very noisy. Frequent suffocative attacks occurred during sleep, and not only interfered with rest, but kept the patient in constant fear of choking to death. She had pain in the right side of the larynx, and constant soreness and distress in the chest from straining of the respiratory muscles.

Examination of the throat showed adhesion of the soft palate to the posterior wall of the pharynx on both sides. The larynx was examined by Dr. W. K. Simpson, Dr. P. A. Callan, and others. The epiglottis was somewhat thickened and deformed from cicatricial contraction, its posterior surface about the seat of the cushion projecting backward so as to exclude a view of the anterior commissure of the cords. From the base of the right arytenoid there arose a membranous band which encircled the entire left half of the larynx, leaving but a small aperture between the free border of the membrane and the right cord, a small part of the latter only being visible. The left cord was entirely covered. Arytenoids somewhat swollen; no ulceration.

December 5, 1885, at 3.30 P.M., in the presence of Dr. J. L. Smith, Dr. P. A. Callan, and Dr. Dillon Brown, after several trials and the use of much force I passed through the stricture my smallest adult tube, the larynx having been previously sprayed several times with four-per-cent. solution of cocaine. As soon as the immediate effects of the operation subsided the patient expressed herself as breathing better than before the insertion of the tube. She slept the following night, in the recumbent posture, for the first time in over two months, and complained of very little irritation from the tube.

December 6th.—Ate two boiled eggs and a piece of toast for breakfast, which she swallowed without much difficulty, but fluids produced more or less coughing.

December 7th.—Slept well; had some dyspnœa, which

[1] Bosworth: On Diseases of the Throat and Nose.

immediately disappeared when the air was moistened with steam. At 11 P.M. complained of pain in the larynx, and thought she felt the tube change its position. It was therefore removed, having been in the larynx fifty-six hours.

The length of this tube is 2½ inches, transverse diameter of head ⅝ inch, antero-posterior diameter of neck $\frac{10}{32}$ inch, and transverse diameter of neck $\frac{8}{32}$ inch. In consequence of having to modify the shape of the head of the next tube I was unable to operate again until December 11th. During the interval the patient's breathing was much improved, and she was entirely free from the suffocative attacks during sleep.

December 11th.—At 3.20 P.M. I tried to insert tube No. 2, but it required more force to push it through the stricture than I considered justifiable, and I therefore reinserted No. 1.

At 2 P.M., December 12th (twenty-two and a half hours later), I removed it, and immediately inserted No. 2 without difficulty.

The antero-posterior diameter of the neck of this tube is $\frac{12}{32}$ inch, transverse diameter $\frac{7}{32}$ inch.

December 13th.—At 2 P.M. the tube was coughed out, twenty-four hours after its insertion. The calibre of this tube was considerably larger than that of No. 1, and allowed free respiration even with moderate exercise.

December 14th.—Tube No. 3 inserted at 7.45 P.M. It has the same dimensions as No. 2 except that the antero-posterior diameter of the neck is $\frac{1}{32}$ inch greater.

December 15th.—Tube caused pain and irritation, with hacking cough, which was relieved by an opiate. It was expelled at 10 A.M., having been retained fourteen and one-fourth hours. For the first time some tenacious mucus was found in the calibre of the tube.

As there was considerable irritation of the larynx it was allowed to rest until December 18th, when No. 3 was reinserted. It was coughed out the next morning, eleven and a half hours after its introduction. As this was the largest tube I had, it was reinserted daily until December 22d. The patient left the hospital December 23d to spend the holidays at home, and returned January 3, 1886. A careful examination of the larynx by Dr. Simpson and others showed no trace of the cicatricial membrane except a narrow band extending between the arytenoids anteriorly. The left cord, which was now distinctly visible, appeared broader than the right and its movements were somewhat restricted. Arytenoids still somewhat swollen; no sign of ulceration; voice good.

As there was ample breathing space in the chink of the glottis and no dyspnœa, further dilatation of the larynx was not considered necessary for the present. She was therefore requested to report for observation once a week and for about six weeks enjoyed excellent health, having gained considerable flesh and strength. But gradually the dyspnœa returned, and she was readmitted to the hospital, March 4, 1886, almost two and a half months from the time she was discharged.

Examination of the larynx showed no material change, there being still ample breathing space between the cords. Therefore the only possible explanation of the return of the dyspnœa was the existence of subglottic stricture, which had recurred. This condition was suspected in the beginning, from the fact that on inserting the tube the lower end after passing the rima was deflected sharply to the left, showing the presence of thickening on the right side, and the force required to overcome the resistance was out of all proportion to what could be offered by the membranous band above the cords. Tubes No. 1, 2, and 3, used on the previous occasion, were passed into the larynx in rapid sucession, and retained from twelve to forty-two hours at a time. On the fifteenth day after admission an additional size, No. 4, was introduced. The antero-posterior diameter of the neck of this tube was one-half inch, transverse diameter one-fourth inch, diameter of head three-fourths of an inch. This tube was worn during the night only until March 31st, when, the stricture being sufficiently dilated, she left the hospital, having been under treatment twenty-seven days.

I now introduce the tube once in two weeks and leave it in over night, and intend soon to increase the interval to a month, which I believe will be often enough to prevent a recurrence of the stricture.

To summarize: During the first period of treatment of eighteen days the tubes were inserted nine times, and retained in the larynx one hundred and seventy-three hours. During her second stay in the hospital of twenty-seven days they were introduced thirteen times, and retained two hundred and four hours.

The introduction and removal of the tubes was accomplished with the same instruments used in intubation of the larynx in children.

I wish to express my obligations to Dr. W. K. Simpson for valuable advice and assistance, and to Dr. Dillon Brown, the resident physician, for unremitting care and attention during the early part of the treatment of this case, which was necessarily attended with more or less anxiety.

Since writing the foregoing a patient was sent to me who has worn a cannula in the trachea for two years for supposed bilateral paralysis of the glottis openers. She was admitted to the New York Foundling Asylum for the purpose of removing the vocal cords, an operation which, as far as I am aware, has never been performed. If incurably paralyzed and lying in apposition these organs are worse than useless, and their removal would not only allow of the free ingress and egress of air, but also the ability to whisper distinctly. It proved to be almost complete occlusion of the larynx from adhesion or growing together of the cords, but whether paralysis preceded this condition or not remains to be seen. Under the influence of ether I enlarged the tracheal opening, broke up the adhesions, and inserted a tube in the larynx, which she is now wearing.

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How the Founder of the Society of Friends Set a Dislocated Neck.—In an interesting and scholarly address by Dr. J. J. Levick, on the "Early Physicians of Philadelphia," he tells us how George Fox travelled through New Jersey and New England, keeping a faithful journal of all that occurred. "In 1672 he was passing through New Jersey, then but sparsely settled. He had spent the day with Richard Hartshorne, at Middletown Harbor (the ancestor, if I mistake not, of one of our present Board of Managers, and of three physicians of that name who have so well served this hospital), and next morning went on to Shrewsbury. 'While at Shrewsbury,' writes Fox, 'an accident befell which for the time was a great exercise to us. One John Jay, a Friend of Barbadoes, who came with us from Road Island, being to trie a horse got upon his back, and the horse fell a running and cast him down upon his head, and brake his neck as the people said. They that were near him took him up dead, and carried him a good way and laid him on a tree. I got to him as soon as I could, and feeling on him, concluded he was dead. As I stood by him pitying him and his family, I took hold of his hair, and his head turned anyway it was so limber. Whereupon throwing away my stick and my gloves, I took his head in both my hands, and setting my knees against the tree I raised his head and perceived there was nothing out or broken that way. Then I put one hand under his chin and the other behind his head, and raised his head two or three times with all my strength and brought it in. I soon perceived his neck began to grow stiff again, and then he began to rattle in his throat, and quickly after to breathe. The people were amazed, but I bid them have a good heart and be of good faith; to carry him in the house, give him something warm to drink, and put him to bed. After he had been in the house a while he began to speak, but did not know where he had been. The next day he was pretty well, and many hundreds of miles did he travel with us after this.'"

ON THE ADOPTION OF SOME GENERAL SYSTEM OF DISTRICTING THE NEW YORK STATE ASYLUMS.[1]

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WHEREVER an asylum for the insane is established it will be found that from all directions toward it both the acute and chronic insane of neighboring territory will gravitate. The regions nearest, which find the institution most accessible, are benefited most; and it has been mathematically demonstrated that several times as many insane come from a circle about the asylum having a radius of fifty miles as from the remoter portions one hundred and two hundred miles away.[2]

The people who have insane in charge, the county or city officers who apprehend them, the doctors who examine, the judges who approve the certificates—it is the duty of none of these to determine whether cases are recent or of long standing. They only decide that treatment and custody are required, and see that such cases are removed to the nearest institution for the insane. An asylum becomes, then, the centre of a district to which all the acute and chronic insane of that region will be sent, according to natural laws which no amount of effort can overcome.

Hence, in the older countries such institutions are placed in districts, and in the best attainable positions in such districts. England, France, and Germany are notably so districted. Their asylums receive both acute and chronic insane. The experiment of constructing separately managed institutions for the incurable has been tried abroad and proved undesirable.

Good systems of districting may be found in some of our own States. Pennsylvania is an excellent example, with its five districts and large mixed asylums in their railroad centres. It is contemplated to increase the capacity of each of these to 2,000 beds. This is a rational system. In time these institutions will not be sufficient for all of the insane of that State, and subsidiary districts must be established, while the healthy, quiet, harmless incurables can be given room in county asylums.

The more easily attainable an asylum, the more speedily can cases be put in its charge.

The sooner cases requiring hospital treatment are removed to an institution, the more quickly do they recover.

For the same reason of nearness can the visits of relatives be more frequent when required as a remedial measure, or when prompted by affection for many whom this dread disease may doom to life-long isolation from home and friends.

Though at times it has been found expedient to construct separate institutions for the chronic and acute insane, yet most alienists are agreed, at the present day, that it is not the best policy, and that the hospitals which receive all classes of diseased minds have a wider sphere of usefulness open to them.

The Willard Asylum for Chronic Insane was created by the Legislature at a time when the overcrowding of the insane into poor-houses demanded immediate relief, and that it was the wisest action to perform at that time its subsequent history has shown. But the conditions under which its creation was required exist no more. The policy of the State in establishing another institution for chronic insane at Binghamton is to be deplored and condemned. The time has now come for devoting Willard and Binghamton to nobler purposes than their present legal position permits them to have, purposes for which they are already adapted. They should no longer be places for the custody and for the support merely of useless members of society, but they should be legally allowed to receive and treat the curable acute insane of their neighborhoods, whether public or private charges.

To more adequately show that the present system of separating the chronic and acute insane is unwise, and also unsuccessful, let me call attention to its failure in this State by means of the following facts:

THE CHRONIC INSANE IN SO-CALLED ASYLUMS FOR ACUTE INSANE.—From the annual reports of 1884 I find that the number of chronic cases admitted during the fiscal year into our State asylums for acute insane can be tabulated in this wise:

ASYLUMS.	Whole number admitted.	Acute insane admitted.	Chronic insane admitted.	Percentage of chronic insane admitted.
Utica	372	180	192	51.61
Buffalo	265	139	126	47.54
Poughkeepsie	282	90	192	68.08
Middletown	163	91	72	44.17

It will be seen from this table than an average of *nearly fifty-three per cent., or over one-half, of the admissions into our so-called asylums for acute insane are in reality chronic cases.*

This is the percentage of admissions alone, but the percentage of chronic insane present in any of these asylums, on any day in the year, is far higher than this. Happily, to illustrate this point, the Hudson River State Hospital can give us a statement which it has published for several years. It is a table showing the duration of insanity in the patients present on September 30, 1885.

	Males.	Females.	Total.
Under one month	2	..	2
From one to three months	3	9	12
From three to six months	6	10	16
From six months to one year	17	26	43
From one to two years	41	33	74
From two to three years	39	39	78
From three to five years	28	29	57
From five to ten years	32	19	51
From ten to twenty years	24	10	34
Over twenty years	13	7	20
Not insane	2	..	2
Totals	207	182	389

We gather from this table that out of 389 patients present in this asylum for acute insane, on that day, 314 were chronic cases. Out of the remaining 73 cases, that had been insane under one year, how many were general paretics, how many paralytics, how many demented, how many curable?

This may be taken as an example of the condition of patients, in this respect, in the other asylums for acute insane.

Can we not conclude from this that any one of these four asylums for acute insane will accommodate all of the acute insane of the State?

The State has caused accommodations for 1,800 acute insane to be made, when there are altogether only 300 to 400 cases at any one time.

THE ACUTE INSANE IN SO-CALLED ASYLUMS FOR CHRONIC INSANE.—Now, if we turn our attention to the institutions for chronic insane, we are startled to find here, too, natural law asserting itself, in spite of the effort to overcome it.

The Willard and Binghamton asylums for chronic insane both receive acute insane as patients.

They really act as district asylums for both acute and chronic insane. The Binghamton asylum has not yet been long enough established to have a large number of acute cases put down in its annual reports; still, a few are acknowledged. But on turning to the accompanying table, showing the insane in the five counties immediately about, and having easiest access to the Willard Asylum, we observe that out of their 278 insane, according to the State Board of Charities' last report (1884), 6 only

[1] Read before the State Medical Society at Albany, February 4, 1886.

[2] See Dr. Edward Jarvis' article on this subject in the American Journal of Insanity, vol. xxii.

were in institutions supposed to receive acute insane, the remaining 272 being inmates of Willard.

Counties.	In Willard.	In other State asylums.
Ontario	95	2
Seneca	50	1
Yates	43	..
Schuyler	31	..
Tompkins	53	3
Totals	272	6

Some of the 6, perhaps all, may be upon private charge. Referring to the annual reports of Willard, it will be seen that every year some acute insane are admitted. There were thirty or more cases of acute mania and melancholia received there in 1884.

We have nothing to say against this, but everything in its favor. This is as it should be. The Willard Asylum should receive all the acute insane of the region that would find it of most convenient access.

It is the injustice of the present policy, which requires that an acute case of insanity, a mile from Willard, should be carried to distant Utica or Buffalo, when here is an asylum, charming in its surroundings, excellent and successful in its management, concerning which an eminent gentleman once said: "We failed to discover even the shadow of a reason why a person becoming insane in the neighborhood of this beautiful asylum should be sent to Utica because he was considered curable."

Of the so-called Districting of the Institutions for Chronic Insane.—Some may be aware that the State has been districted for the chronic insane.

The Binghamton district consists of twenty-one counties, and the asylum is not located in the district at all.

The Willard district consists of eighteen counties, six of which are in the northern part of the State, as far as convenient from the asylum.

Seventeen counties are exempted from the Willard Asylum act by the State Board of Charities, because they have asylums for their own chronic insane.

Four have been exempted by special statutes.

To point out the absurdity of this system of districting, I may here state that the Willard Asylum now contains more than 860 patients belonging to the Binghamton district; and that the Binghamton Asylum has patients from seven counties of the Willard district, and from seven exempted counties. Hence this division can hardly be said to be happy.

However, other more important facts reveal the necessity for change in the policy of the State with regard to the distribution of the insane, which we will contemplate in the following paragraphs:

The Depopulation of the Binghamton Asylum Possible.—It is probable that the Binghamton Asylum may become a total loss to the State through depopulation, for reasons which will presently appear.

The establishment of this institution so far outside of the district whose insane are required to be sent to it is a source of great inconvenience, loss, and sorrow to the people of the eastern part of the State.

Patients sent there are generally separated forever from home and kindred—people too poor to spare the time or money for so long a journey. Relatives are thus cut off from seeing those dear to them. Many patients are appreciative of the isolation awaiting them in the distant institution. The visits of friends are often of great remedial value in the treatment of insanity. Even this curative measure is denied them.

The cost of transfer of patients from the almshouses along the Hudson River and from the Poughkeepsie Hospital is in itself a serious burden to tax-payers. This has been estimated to be from thirty to one hundred dollars per patient. A little more than the latter sum would pay a year's board at Willard.

The Binghamton Asylum is so difficult of access to the counties constituting its district, that if the institution had been constructed at Baltimore, Buffalo, or Washington, the cost and trouble of transportion of patients and the inconvenience of visitation would be less than now. The county superintendents choose the most feasible route for the journey with their charges, which is by way of Albany and Utica—nearly three times the distance across in a straight line!

Take a map of New York and draw a line along the northern boundary of Jefferson and Lewis, the eastern of Lewis, Oneida, Madison, Chenango, and Broome, and thus divide the State into two nearly equal geographical sections, the eastern and western halves.

The twenty-nine counties of the western half of the State had (1880) an aggregate population of 1,706,728; the thirty-one counties of the eastern half, 3,376,143, or very nearly twice that of the former.

The western half paid in 1884 a State tax of $1,052,599.04; the eastern half, $3,529,579.84, or more than three times the amount paid by the former.

The western half has at present, approximately, 5,370 insane, the eastern, 11,252, or more than twice as many as the former.

The western half has five of the State asylums, with 3,500 beds, the eastern but two, with 750 beds.

If it be objected that the Auburn Asylum for Insane Criminals is for the benefit of the whole State, then the Middletown institution must also be excepted as having been built for the homœopaths of the whole State. Deducting, then, 150 beds for the former, and 400 for the latter, we have this remarkable fact:

The eastern half of the State, having twice the population, paying three times the amount of State tax, supporting twice the number of insane, is given by the State one asylum, with 350 *beds, while the western half is furnished with four asylums, having* 3,350 *beds!*

It may not be amiss to state here, also, that New York City and Brooklyn, which together pay more than half of the whole State tax, which have contributed more than half of the cost of the seven insane asylums of the State, and have often been called upon for the same proportion toward the maintenance of indigent and pauper lunatics in these asylums, have provided their own asylums and have always supported their own insane.

It is such unjust apportionment that rouses public opinion. The same popular voice is against the tearing of the insane from friends and dooming them to hopeless separation.

It is because of these things that the counties along the Hudson River must ultimately construct their own asylums for chronic insane, thus correcting in a measure these abuses, and at the same time bringing each institution into immediate and valuable commercial relation with the county that creates and supports it. Albany, Westchester, Ulster, and Dutchess Counties, having nearly seven hundred chronic insane in the asylums of the western part of the State, are already agitating such projects. Unless other provision is made for this section, this will soon be carried into execution, and the same be accomplished eventually in every other remote county of the Binghamton district, as the popular outcry for justice grows louder and the burden of caring for the insane grows heavier in each.

Do not these facts point to the depopulation of the Binghamton Asylum? With almost every county of its district providing for its own chronic insane, whence will come its patients?

Another feature in this injudicious transfer of the insane from the eastern to the western half of the State is that the county superintendents of the poor are often so much influenced by the piteous appeals of relatives that they will not remove the chronic insane from the Hudson River State Hospital. When unable, by appeal or influence, to win the officials to their cause, the friends will often pay to the county the difference in cost of maintenance at the acute and chronic institutions. Thus,

while it is cruel to refuse the supplications of unhappy relatives to keep their insane near them, it is, under the present state of things, also wrong that chronic and incurable cases should be supported for years in this hospital, to the extent that they are forced to be. It leads to the painful overcrowding, so apparent in this institution.

THE REMEDY FOR THESE EVILS IS IN A PROPER SYSTEM OF DISTRICTING THE ASYLUMS OF THE STATE.—The remedy for the present system, or rather lack of system, is to divide the State into districts, each of which shall have an asylum, for both acute and chronic insane, as near its railroad centre as possible.

The total number of insane in the State is now about 17,500. October 1, 1884, the number was approximately 16,622, as compiled by myself from various State reports and from figures furnished me by the Census Bureau at Washington.

SHOWING APPROXIMATELY THE NUMBER OF INSANE IN THE STATE OF NEW YORK, OCTOBER 1, 1884, BY COUNTIES.

Names of counties.	No. insane in institutions, October 1, 1884.	No. insane in counties by tenth census.	Total No. of insane, October 1, 1884.
1. Albany	440	220	606
2. Alleghany	58	52	102
3. Broome	81	103	119
4. Cattaraugus	74	125	152
5. Cayuga	138	224	200
6. Chautauqua	127	151	197
7. Chemung	91	56	147
8. Chenango	67	129	155
9. Clinton	52	66	95
10. Columbia	102	100	173
11. Cortland	54	84	94
12. Delaware	63	48	111
13. Dutchess	193	395	330
14. Erie	559	491	690
15. Essex	32	44	60
16. Franklin	43	38	74
17. Fulton	68	26	86
18. Genesee	37	79	95
19. Greene	49	61	100
20. Hamilton	2	2	7
21. Herkimer	72	63	132
22. Jefferson	104	158	210
23. Kings	1,420	1,340	1,688
24. Lewis	62	43	87
25. Livingston	70	129	140
26. Madison	61	87	121
27. Monroe	326	383	441
28. Montgomery	70	88	130
29. New York	4,274	3,455	4,532
30. Niagara	105	67	171
31. Oneida	336	960	482
32. Onondaga	216	243	348
33. Ontario	108	125	168
34. Orange	173	334	225
35. Orleans	36	60	92
36. Oswego	99	149	209
37. Otsego	68	111	163
38. Putnam	32	13	44
39. Queens	167	189	220
40. Rensselaer	361	214	438
41. Richmond	75	48	101
42. Rockland	40	19	52
43. St. Lawrence	75	143	174
44. Saratoga	79	135	180
45. Schenectady	48	31	79
46. Schoharie	44	67	105
47. Schuyler	33	46	79
48. Seneca	56	1,546	87
49. Steuben	117	115	230
50. Suffolk	72	119	132
51. Sullivan	55	84	101
52. Tioga	41	68	99
53. Tompkins	63	53	110
54. Ulster	181	66	242
55. Warren	23	36	51
56. Washington	73	117	155
57. Wayne	87	148	191
58. Westchester	262	418	666
59. Wyoming	35	62	80
60. Yates	49	29	74
Total	11,998	14,055	16,622

The key to districting the State is to make use of asylums already constructed, to form each district of counties having easy access to the institution, to apportion as nearly equally as possible the population and the number of insane, and to permit each asylum to care for both acute and chronic insane.

The advantages of this policy are :

1. The ease with which friends and relatives may visit patients.

2. The speed with which recent cases can be put at once under treatment.

3. The reduction in cost of transportation and maintenance.

It has been demonstrated that as the number of patients in an institution increases (at least as far as 2,000) the *per capita* cost of maintenance steadily decreases.

It is clear that our asylums for acute insane are receiving $4 to $4.50 weekly for cases supposed to be recent, when, as hereinbefore shown, an average of fifty-three per cent. of their admissions alone are chronics.

It is equally clear that Willard, receiving $2.42 weekly *per capita*, treats thirty or more cases of acute insanity annually at that price.

It is probable that the average *per capita* weekly cost of all the insane in all of these asylums under the new system need not exceed $2.50.

Having proven that any *one* of the State asylums built for the acute insane can accommodate *all* of the acute insane of the State, it is evident that each is already sufficiently able to care for the acute insane of its own proposed district, sufficiently beautiful in its surroundings, sufficiently luxurious in its architecture. Consequently the additional buildings necessary on the grounds of each should be of the plainest, most economical, yet durable character, because they are to receive the chronic and incurable cases.

Separate buildings for the various classes of patients should be constructed; for the trusty laborers, simple and substantial; for the violent, destructive, and noisy, strong, and with many single rooms; for the epileptic, for the paralytic, for the filthy, roomy and well ventilated; for the quiet and idle, plain, frugal, and homely.

The districts proposed are as follows :

1. The Buffalo or Western.
2. The Willard or Middle.
3. The Binghamton or Southern.
4. The Utica or Northern.
5. The Hudson River or Eastern.
6. The Plattsburg or Northeastern.

New York and Kings Counties constitute districts in themselves, as they take complete charge of their own insane, and will, in all likelihood, continue to do so. They are, therefore, not included in this division. If, however, justice should ever be done them, and their institutions be converted into State asylums, New York would be a district in itself, and a great asylum might be erected somewhere on Long Island to receive not only all the Kings County insane, but those from the rest of the island. With a New York district and a Long Island district added to the above, the system would be complete.

The Auburn Asylum for Criminals and the Homœopathic Asylum at Middletown are, for obvious reasons, not given districts, both having been built as special hospitals to accommodate certain classes of the whole State. Were it possible or just to force some of the counties to send all their insane to a homœopathic institution, the Middletown Asylum might be given a district consisting of Sullivan, Ulster, Orange, Rockland, and Richmond Counties, which have easy access to it, without interfering particularly with this plan of districting.

The Buffalo District.—The district to be accommodated by the asylum at Buffalo consists of eight counties, Niagara, Orleans, Genesee, Erie, Wyoming, Chautauqua, Cattaraugus, and Alleghany, having, according to the census of 1880, a population of 530,856, and an approximate insane population of 1,579. As will be seen, Buffalo is particularly well adapted to the wants of an asylum. Railroad centres radiate from it into every part of its district. It is like the centre of a spider web.

This institution has now 350 beds. It should be gradually enlarged to a capacity of 2,000, as the district demands it. It may be objected that some of the counties already have asylums, like Erie with its 300 patients. But even Erie County has patients now at Willard. It had last year a total of 190 insane in other institutions than its own.

The Willard District.—The counties constituting the Willard district are eleven in number—Monroe, Wayne, Cayuga, Livingston, Ontario, Seneca, Yates, Schuyler, Tompkins, Steuben, and Chemung—having a total population of 575,810, and an approximate insane population of 1,867. This institution has 1,800 beds, and is therefore almost large enough to meet the requirements of the district. It will need a small building for acute insane. Had we our choice of situations, the asylum would not have been placed so far as it is from a railroad centre. Still, for the territory as laid out, it is not so badly located. It lies nearly midway between the natural travel centres of the district—viz., Geneva, Ithaca, and Watkins Glen.

Here, too, it may be objected that Wayne and Monroe counties have their own chronic asylums, and we add that they are already overfull, and must overflow into Willard. Both have patients in Willard now, and their number must increase.

The Binghamton District.—The counties to constitute this district are the nine—Onondaga, Cortland, Chenango, Tioga, Broome, Otsego, Schoharie, Delaware, and Sullivan—which will find Binghamton of easy access, because that city is a good railroad centre for this region. These counties had, in 1880, an aggregate population of 425,284, and now an approximate insane population of 1,295. The institution has at present, I believe, a capacity of 800 beds. With the exception of the Willard, the necessity for increased accommodation for insane is greater in every other district of the State at present than at Binghamton. In time this asylum must be slowly enlarged to meet the increasing wants of the district.

The Utica District.—Utica is a railroad centre, and an excellent situation for an asylum. The counties which will find it of easy access are nine—Jefferson, Lewis, Herkimer, Hamilton, Oswego, Oneida, Madison, Fulton, and Montgomery—having in 1880 a total population of 450,909, and an approximate insane population of 1,464. The Utica institution has 600 beds, but should also be increased in size as required, to accommodate all the insane of its proposed territory.

The Hudson River District.—This district has a different conformation from the others, owing to its lines of travel, which lie chiefly along the great river flowing down its median line. The natural centre of this district must be along this river—the Hudson River State Hospital at Poughkeepsie—half-way between New York and Brooklyn on the one hand, and Albany and Troy on the other, having a population of 3,000,000 within two hours' travel. This district should consist of fourteen counties, viz.: Schenectady, Albany, Rensselaer, Greene, Columbia, Ulster, Dutchess, Orange, Putnam, Rockland, Westchester, Richmond, Queens, and Suffolk. They had in 1880 a total population of 962,933, and at present an approximate insane population of 3,408. This is, of course, as before stated, exclusive of New York and Brooklyn. The capacity of the Poughkeepsie institution is but 350 beds, and hence needs enlarging to accommodate 2,000 patients very soon. The name Hudson River is given to this district, because it will be remembered that it contains two asylums, that at Poughkeepsie and the homœopathic institution at Middletown in Orange County. I can see no objection to the enlargement of the latter to accommodate chronic and incurable insane, when the district demands more room than the Poughkeepsie State Hospital, with its quota of 2,000, can furnish.

The Plattsburg District.—This region sends its insane at present to the Utica and Poughkeepsie institutions, chiefly, and has as yet no State accommodation. Plattsburg is the natural railroad centre of this territory, as will be seen upon the map. The location of an asylum elsewhere (in St. Lawrence County, for instance, as has been contemplated) would only complicate matters and make the districting of the State in the future still more difficult of accomplishment than now. This portion of the State is not yet as populous as it will be. But its seven counties—St. Lawrence, Franklin, Clinton, Essex, Warren, Saratoga, and Washington—aggregated in 1880 a population of 332,005, and its present number of insane is about seven hundred and eighty-nine. So remote are they from any hospital for the insane, that these unfortunates are kept at home as long as possible before the tedious journey to Utica or Poughkeepsie is undertaken. They are then brought either as moribund or chronic cases. At least this is the experience at Poughkeepsie as regards the insane from the remoter counties of the Plattsburg district. This part of the State should be relieved by the Legislature within the next few years. It may be worthy of suggestion that the Clinton prison at Dannemora, near Plattsburg, hitherto run, as I understand, at an annual loss to the State—and of little use for its present purpose—might be transformed into an asylum for this district.[1]

KAIRINE AND ANTIPYRINE.[2]

By J. HENRY FRUITNIGHT, A.M., M.D.,

FELLOW OF THE NEW YORK ACADEMY OF MEDICINE AND OF THE AMERICAN ACADEMY OF MEDICINE, ETC.

We are all aware of the close attention that has been devoted during the past decade, by the profession everywhere, to the subject of the reduction of high temperature. From the multiplied observations of these years it has been learned that an individual may tolerate an exceedingly high degree of temperature for a very brief period with comparative safety, and that the element of danger resides in the persistency of such high temperature. We all have most probably met with cases in which a very high temperature—possibly as high as 107° or 108° F.—existed for a very short time, and yet notwithstanding this high temperature the patient finally recovered. Had this high degree of fever, however, continued for a longer period of time irreparable disorganization of the blood must inevitably have occurred, resulting in a perversion of tissue metamorphosis which would terminate only with the death of the patient.

From these facts we are warranted in drawing the deduction that if we could procure an agent to hold in check the tendency to a high temperature in febrile diseases, one element of danger, viz., hyperpyrexia, could be held at bay, and to that extent a favorable issue of the case in hand might be prognosticated. It is not assumed that under these circumstances the remedy is to remove the cause or the specific *materies morbi* of the fever, and thus abort or cure the disease, but rather to reduce the pyrexia to a safer limit, the disease nevertheless running its usual course as regards duration. And this is exactly what is effected by some of the antipyretic methods and remedies recently employed. Your attention this evening will be called to two of the purely medicinal means used to effect this reduction of temperature—I refer to Kairine and Antipyrine. *A propos*, the title of this paper might in justice be written Antipyrine *versus* Kairine.

I shall allude but very briefly to the physical and chemical qualities of these drugs, dwelling especially upon their physiological action and therapeutical effects so far as known. Nor shall I weary you with detailed

[1] The paper was illustrated by six large maps of New York State, drawn by the author to represent the present state of things, and the method of districting he proposes.

[2] Read before the Northwestern Medical and Surgical Society of the city of New York, April 21, 1886. Specimens of both drugs, as imported in original packages, were exhibited to the Society for inspection.

clinical histories of cases, but preferably I will state, in general terms, the observations which I have made in different groups of cases and varieties of diseases, concluding with a summary of deductions derived therefrom.

Owing to the unwieldy complexity of the chemical appellations of both of these substances, names etymologically significant of their clinical effects and therapeutical applications have been coined for them. Thus kairine from the Greek adjective of the first and second declensions, καιρίος-α-ον, meaning appropriate, happening at the right time, etc., secondarily, mortal or fatal; and antipyrine from the Greek preposition ἀντί, against, and the Greek noun πυρ, fire, meaning against fire, and, secondarily, against heat or fever. Both words have sometimes been written without the final letter *e*, which is manifestly improper, because as the analogues of the alkaloids of belladonna, conium, nux vomica, opium, etc., which do possess the final vowel *e*, they should undoubtedly correspond with these latter in their orthography.

Both kairine and antipyrine are artificial productions, the results of researches in synthetic chemistry. It had been known for some length of time that when quinine is distilled with caustic potash a volatile nitrite base called chinoline (C_9H_7N) is obtained. Donath, who was the first to obtain the physiological action of this substance, demonstrated that in many of its effects it closely resembled quinine. Further experiments by proficient and renowned German chemists, particularly Fischer, of Munich, and Dr. Knorr, resulted in the discovery of kairine and antipyrine. From chinoline (C_9H_7N) kairine has been obtained by the processes of hydration, oxidation, and substitution—one or more atoms of hydrogen being replaced by one of the primary alcoholic radicals. In this manner two substances, known respectively as oxy-hydro-methyl chinoline ($C_9H_{10}NO,CH_3$) and oxy-hydro-ethyl chinoline ($C_9H_{10}NO,C_2H_5$), have been produced. The former has been distinguished as kairine *m*, and the latter as kairine *a* or *e*; but as the ethyl compound has latterly been more commonly used in practice, it is meant when the word kairine is used without such qualification.

From a hypothetical base closely allied to chinoline in its chemical properties and constitution, entitled quinizine, Dr. Knorr derived antipyrine, which is a dimethyl-oxy-quinizine ($C_{20}H_{18}M_4O_2$).

On page 493, vol. ii., of Ziemssen's "New Handbook of General Treatment," it is said: "It is interesting to note that most of the antipyretics belong chemically to the so-called aromatic group (derivatives of Benzol), a group which at the same time yields many of our best antiseptics. Thus carbolic acid, salicylic acid, benzoic acid, kairine, antipyrine, quinine, and the other alkaloids of cinchona are all of them members of this group. This fact tends to confirm a somewhat general belief that some, if not all, of our most efficient antipyretics owe this action to their antiseptic properties." As a logical conclusion to this reflection, I will venture to predict that in the future treatment of diseases of septic origin brilliant therapeutic triumphs will follow in the wake of the progressive development of this portion of the field of organic chemistry.

I will take up kairine first, merely because in its production and use it antedates antipyrine.

It was in the early part of the year 1882 that Filehne, of Germany, announced that a remedy had been found which would outrival quinine in its efficiency to reduce fever. The remedy was welcomed with much enthusiasm, and physicians hastened to verify or disprove the claims that had been raised for the new medicine. Kairine is a grayish-yellow, crystalline powder, easily soluble in water and alcohol, and of a bitter taste. It is true that the drug has the property of reducing a high temperature, and this it does very soon after its exhibition. My personal experience with the remedy is limited to its use in cases of typhoid fever. In the autumn of 1882 I made considerable use of kairine in about half a dozen cases of this disease. My experience with it in the last case of this series, however, led me to abandon it forever. I will detail my observations of the physiological effects of the medicine as revealed by its employment in these cases, and in the one last referred to in particular. I have given it in doses of only from grs. v. to grs. x., every three or four hours, watching its effects closely. It has, however, been advised by other observers to be given in much larger doses, and to be administered at one time. Its most marked physiological effect is its action upon the sudoriparous glands of the skin, and I therefore speak of it first. Kairine produces a most extraordinarily copious diaphoresis, which is accompanied by an excessive dilatation of the cutaneous vessels, and by an inhibition, or at least perversion, of their vaso-motor influences. This sweat, which is poured out under the influence of kairine, is cold and clammy.

At the same time its effect upon the heart and circulatory system is dangerously depressing, interfering with the tonicity of the cardiac muscle, and in consequence retarding the proper oxygenation of the blood, producing lividity and ultimately cyanosis of the general surface of the body, with threatening collapse of the patient. The rate of the pulse is reduced in frequency, as are also the respiratory movements, but in this reduction their arithmetical physiological ratio is not maintained. In other words, the respiratory movements are subjected to a more active reduction than is the rate of the pulse. This is a second element retarding the proper oxygenation of the blood.

Kairine, furthermore, has an injurious action upon the red blood-corpuscles, hindering them in their functions as oxygen carriers.

In my experience the remedy seems to obscure the lucidity of the intellect, possibly on account of changes in the cerebral circulation, and consequent malnutrition of the gray matter of the brain. The medicine is eliminated by the kidneys, imparting to the urine a dark-greenish hue. Frequently albumen may be detected in the urine after the administration of kairine. It very frequently produces nausea and vomiting, with headache and *tinnitus aurium*. It produced a dry, parched condition of the fauces in some of my cases. The effect of the medicine on the action of the bowels was negative. Its effects, when well marked, resemble those presented in cases of carbolic-acid poisoning.

Kairine, because of its easy solubility in water, has been administered hypodermatically, but with bad effects, for motor paralysis, with reduced sensibility, even to the point of complete anæsthesia, has sometimes followed this mode of administration of the drug. I have never given it to children, nor have I ever read or heard that it had been administered to them.

The literature relating to kairine is very meagre, consisting entirely of isolated observations scattered here and there through the various medical journals. In typhoid fever alone does it seem to have been used to any extent.

From its physiological effects we can safely affirm that it would be obviously injudicious, not to say dangerous, to administer it in pneumonia. The recorded observations, however, nearly all uniformly concur in condemning kairine as a dangerous and treacherous remedy. Thus kairine, by the strangely ironical aptness of its name, unwittingly given to it by its discoverer, was destined to be fatal or mortal not to the patient's fever alone, but to the patient himself as well.

In the summer of 1884 I had under my care two cases of acute phthisis in young girls, aged respectively sixteen and nineteen years. They were also examined by Dr. James R. Leaming, of this city, who concurred in my diagnosis. Furthermore, specimens of the sputa of both patients, which were microscopically examined by Dr. Welch, now of Johns Hopkins University, Baltimore, but then of Bellevue, revealed a large number of the tubercle bacillus of Koch. A brother of one of these patients,

who happened to be an excellently educated pharmacist was deeply interested in her welfare. This patient suffered extremely with daily evening exacerbations of fever, though everything was done to check them, but all without avail. I then recollected that I had read fragmentary but favorable reports concerning the efficacy of a new drug called antipyrine in reducing fever.

It also was first used by Filehne, in Germany, in the spring of 1884. It was in August of that year when I told the brother of my patient that I intended to resort to antipyrine in the treatment of his sister's fever, and requested him to procure some of the medicine for me. After many trials and much trouble he succeeded at last in obtaining from a wholesale drug-house, as a favor for me, about half a drachm of the drug, which was all that could be found in the whole city at that time. I administered it in five-grain doses every four hours, and succeeded in reducing the evening temperature about two or three degrees, but so soon as the supply of the medicine was exhausted the exacerbations returned as before.

At the meeting of this Society held in October, 1884, I reported my observations upon the effects of antipyrine in the case just cited. So far as I know these were the first *publicly* reported observations upon antipyrine in this city, and possibly in this country.

Antipyrine, which was first produced by Dr. Knorr, of Erlangen, occurs in the form of prismatic crystals of whitish color and of a somewhat bitter taste. It is very soluble in alcohol and water, but less so in ether. Its solutions are of neutral reaction. It is sometimes adulterated with quinine or sugar.

Like kairine, antipyrine has the property of reducing febrile movement. Its chief action, too, seems to be diaphoretic, though in my experience not to the extent observed when kairine has been taken. The augmented perspiration, unlike that excited by the ingestion of kairine, is warm and natural. This diaphoresis is also accompanied by a moderate dilatation of the cutaneous vessels.

It reduces the frequency of the pulse, but not the number of the respirations. Hence the process of oxygenation is not interfered with. The normal temperature will not be disturbed if the medicine be taken under such circumstances. When given to an individual free from fever there is a slight dilatation of the cutaneous vessels, which is proportionally increased if fever be present at the time of the administration of the remedy. When repeated doses have been given, the antipyretic effect will be manifested from four to eighteen hours thereafter, and this effect will persist so long as the administration of the medicine is continued, even lasting a considerable time after the final dose and actual suspension of the remedy. The frequency of the pulse is affected to a less extent than the temperature is. It very soon cleans and moistens the furred tongue of fever patients, and retains it so.

It is sometimes accompanied by a bright red, miliary eruption, which does not cause any inconvenience to the patient, and which occasionally disappears even during the continuance of the administration of the medicine. This eruption appeared in the case of acute phthisis, to whom I first gave the remedy.

I have never seen antipyrine produce the depressing effects which have been observed when kairine has been taken. It does not interfere with or affect digestion, very rarely disturbing the stomach, and having no bad after-effects. The cerebral functions remain unimpaired. The action of the bowels is unaffected by antipyrine. It is eliminated by the kidneys, having been found in the urine.

It can be administered either by the mouth or by the rectum with equally good results, and because of its easy solubility it is also adapted to hypodermatic use. For the same reasons it can readily be given to children.

Foreign authorities have recommended to give the remedy in one large dose at a specified time. I should hesitate a little to act upon this advice, for I have given it, as Dr. Leonard Weber of this city also has given it, in divided doses, ranging from grs. v. to grs. x., every three or four hours, continued over a prolonged period of time, with satisfactory and positive results.

I have used antipyrine very extensively since my first report, having prescribed it for both children and adults. I have given it particularly in those types of disease which have as a factor a tendency to a long-continued high temperature, as in acute pneumonia, typhoid fever, pelvic cellulitis, phthisis, etc., and without the occurrence of any unfavorable symptom or result. It has been given by some physicians in scarlet fever, acute rheumatism, pericarditis, and other febrile affections; but as I have relied on other remedies in cases of this character, I cannot speak from experience as to the action of the remedy in them.

In fevers of a malarial type and origin *quinine* is of course our main reliance; but during the paroxysm of fever of an intermttent or remittent, when the temperature was high, I have given antipyrine, with the result of reducing the temparature. In the interval I returned to the quinine and thus by this combination of therapeutic forces lessened the severity of the attack. I have given it thus to both children and adults who have been afflicted with these forms of fever.

In those diseases in which high temperature is not a dangerous or prominent feature, as in ordinary cases of diphtheria, cerebro-spinal meningitis, etc., I have never given it, nor do I think that it is needed in such cases. I may here incidentally remark that antipyrine has also been used as a hæmostatic in epistaxis. To hold in check the diaphoretic action of antipyrine, if it be too profuse, its administration may be guarded with atropine or belladonna.

Antipyrine excels all other means at present known for reducing the temperature of certain classes of febrile patients. It is a safe and prompt antipyretic, especially in pneumonia and typhoid fever. At the Fourth German Congress of Internal Medicine, held at Wiesbaden, April 8 to 11, 1885, a general discussion on antipyretics took place, and the general verdict of all the prominent speakers was exceedingly favorable to the action of antipyrine. Nevertheless, I should not countenance its use as that of a routine remedy. The *minutiæ* of its administration must be determined by the physician in charge for each individual case.

The general conclusions which can be deduced from these observations are as follows:

Firstly, kairine and antipyrine are both antipyretic, with marked diaphoretic action.

Secondly, kairine is not only an antipyretic, but a cardiac and nerve depressant as well, hence dangerous to use, and should therefore be discarded in practice.

Thirdly, antipyrine does not cure or eliminate the cause of the febrile movement, but moderates it in its intensity, thus modifying its phenomena and contributing to the recovery of the patient; and,

Fourthly, the diseases in which antipyrine is especially indicated are those which have been designated as self-limited, in which there is a tendency to the persistence of high temperature.

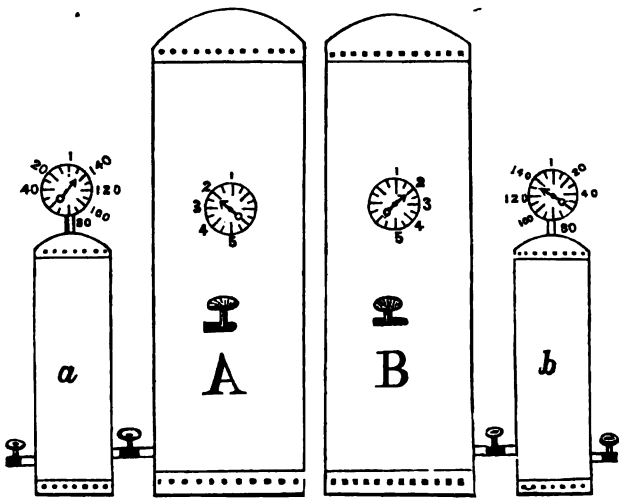
SALICYLATE OF SODA AND SALICIN IN GLYCOSURIA.—Dr. O. V. Petersson reports in the *Upsala Läkareförenings Förhandlingar*, vol. xxi., No. 6, 1886, a case of diabetes mellitus speedily cured by the use of salicylate of soda in daily dose of from one to one and a half drachm, followed after a month by salicin in doses of two drachms pro die. In fifty-six days the daily quantity of urine fell from one hundred and fifty to fifty ounces, the specific gravity from 1.045 to 1.022, and the amount of sugar excreted from about seven ounces to zero. At the time of the report, four months had passed without any reappearance of sugar or increase in the amount of urine passed in the twenty-four hours.

TREATMENT OF PHTHISIS BY DISPLACED AIR.

By W. C. SNEDEN, M.D.,
BROOKLYN, N. Y.

While this subject is attracting such wide-spread attention, I wish to contribute my mite toward alleviating the woes of my fellow-man.

In this short article I will endeavor to describe as briefly as possible an apparatus which will answer every purpose, which is not costly, and which can be owned by the operator, as it is not patented.



It consists essentially of two large air-receivers, for very moderate pressure, and two small air-receivers for very high pressure, such as are used for carrying compressed oxygen. A good air-pump is also needed—the "Novelty" being the best in my experience. One of the large receivers, *A*, is connected with the small receiver *a* by a tube with stop-cock. The large receiver *B* is connected with the small one *b* in a similar manner. Each of the receivers is furnished with a pressure-gauge.

If now the air is exhausted from *a* by means of the pump, we can diminish the pressure in *A* at will, by simply opening the stop-cock and allowing the air to flow from *A* into *a*. If we first force the air into *b*, at high pressure, we can increase the pressure in *B* by opening its stop-cock and allowing the air to flow from *b* into *B*.

By means of a flexible rubber tube leading from each of the large receivers, we can cause the patient to breathe the compressed air from *B* and expire it into the air of the room, or to breathe the same compressed air and expire it into the rarefied air in *A*, or to breathe the air of the room and expel it into either a denser or a rarer atmosphere in the receivers. The air at any of these densities can be easily medicated by vapor, spray, or any means ordinarily used.

The direction of the air-currents can be controlled by valves introduced into the mouth-pieces or into the tubes; or even by so simple an expedient as allowing the patient to alternately pinch the flexible tubes between his fingers and thumbs.

Pressure can at any time be increased or diminished in the small receivers by a few turns of the air-pump.

The cost of such an apparatus need not exceed two hundred dollars, and it can be constructed in any fair-sized town.

Catarrhal Headache.—Iodide of potassium is said to quickly relieve the dull headache so often accompanying an ordinary cold in the head. Two grains may be dissolved in a glassful of water, which is to be taken in little sips during half an hour. Dr. Davis recommends this simple remedy, and says he has hardly ever known it to fail.

Clinical Department.

A SHORT UMBILICAL CORD.

Dr. Charles P. Dolan, of Waterville, Minn., writes that he was called recently to attend an unmarried woman in confinement. He noticed as soon as the child was born that it was very weakly; it did not cry, but made a few feeble attempts to breathe. It was large and well developed, but was whiter than a new born infant usually is. On proceeding to cut the cord, the writer found that it was already divided; he immediately tied the end, but the child lived only an hour and a half. No great loss of blood was noticed during the progress of the labor. The cord was found to measure but twelve inches. It was reflected upon itself in two places, the adjacent surfaces being strongly adherent as though there had been an inflammatory process going on. The length of the cord, after the adhesions had been broken and the loops unfolded, was twenty inches.

CANCER OF THE MALE BREAST.

Dr. Sinclair Tousey, Jr., of Brooklyn, reports an operation for extirpation of cancer in the male breast, performed by Professor T. M. Markoe, at the New York Hospital. The patient was forty-five years of age, had always been strong and hearty, had never had venereal disease, and gave a negative family history. Twenty-five years ago a small tumor appeared under the left nipple, but it gave no pain, except when struck or pinched. Five years ago it began to increase in size, and shooting pains were felt in the breast. During the past year it had grown rapidly, and little pustules had formed and opened, discharging purulent matter. The tumor had attained the size of a small orange, was freely movable over the subjacent tissues, but was evidently malignant in its nature. It was rather flattened and biscuit-shaped, and there were numerous enlarged and indurated maxillary glands. Elliptical incisions were made, embracing the tumor, and it and the axillary glands and neighboring areolar tissue were removed. The wound was closed by catgut sutures, a single supporting stitch of silver wire being inserted to relieve tension. Upon examination of the tumor it was found to have invaded the entire mammary gland, which was considerably enlarged. The chief point of interest in the case was that it was one of cancer of the male mammary gland, an occurrence of some rarity. Of 102 cases of cancer of the breast recorded by Dr. S. W. Gross, only two were in the male subject, and very nearly the same proportion has been observed by other investigators.

The Foochow Medical Missionary Hospital.—We have received the fourteenth annual report of this institution for the year 1885. The hospital is under the care of Dr. H. T. Whitney, with three native assistants. Two of the native assistants rendered such valuable aid in the army during the trouble with the French, that they were promoted by General Tso Tsung Tang to the fifth and sixth degrees of military honors. The number of patients treated in the hospital was 604, with 334 cures, and in the dispensary 3,260, making a total of 3,864. The number of surgical operations performed, including 205 teeth extractions, was 425. The total expenses of the hospital, including wages and medical supplies, amounted to only $746.46. The religious work consisted in daily morning prayers in the hospital, and a short service on Thursday and Sunday afternoons. In the dispensary a regular preaching service is held previous to dispensing medicines. The report states that "at least five dispensary patients became interested in the truth during the year, and many more were led to see the superiority of Christianity over their own false religions."

Progress of Medical Science.

CALOMEL IN THE TREATMENT OF DROPSY.—In the case of a patient suffering from dropsy, to whom, for other reasons, mercury in various forms had been given, Dr. E. Jendráfsik noticed marked diuresis and rapid disappearance of the anasarca after the administration of a few small doses of calomel. He was induced by this to try the drug in other similar cases, and met with great success. The calomel was given in doses of three grains, from three to five times a day, larger amounts being inadmissible on account of the action upon the bowels. The increase in the urinary secretion began about the second day and soon became excessive, subsiding again to the normal in from five to fourteen days. After the polyuria had once become established, a continuance of the calomel seemed to be productive of no good results. The amount of diuresis did not depend apparently upon the size of the dose of the calomel, but rather upon the extent and degree of the œdema. Experiments upon healthy individuals, as well as upon a patient with pleuritic effusion, were without result, thus proving, apparently, that the drug did not act as a renal irritant. The action upon the heart was also very slight, and, according to the author, purely secondary, and due to the favorable influence upon the circulation resulting from the reduction of the dropsical effusion. Dr. Jendráfsik thought that the diuresis was caused solely by the taking up of the fluids from the tissues by the blood. To prevent stomatitis the author ordered a mouth-wash of potassium chloride, or gave the drug internally in doses of twenty to twenty-five grains per diem. Several cases are related in which excellent results were obtained by the use of calomel.—*Deutsche Medicinal-Zeitung*, May 6, 1886.

TREATMENT OF LUPUS.—Professor Bertarelli, of Milan, recommends strongly resorcine in the treatment of lupus. Incorporated with vaseline (equal parts) and applied to the surface of the disease, it produces in a short time a healthy action, without provoking the slightest pain or irritation of the neighboring parts. The cicatrices are smooth, and of the color of the surrounding skin.—*Medical Press and Circular*.

AN UNUSUAL SOURCE OF LEAD POISONING.—A physician was called to see a child who had been treated unsuccessfully by a number of medical advisers for colic. He found an infant five weeks old, rather emaciated, whose skin was of a bluish color, continually crying, with feet and hands drawn together. The physician sought everywhere for the cause of the disease, finding none until he happened to notice the nurse's face, where he at once saw the explanation of the trouble. The nurse had a wonderfully pretty pink and white complexion, but the physician drew his finger across her face and found it covered with a greasy lead paint. The nurse confessed to having used cosmetics for a long time for her complexion. She was forbidden to do so, and the child recovered, with appropriate treatment, in a few days.—*St. Petersburger Medicinische Wochenschrift*, No. 8, 1886.

RHEUMATISMAL NODULES.—At a meeting of the Hospitals Medical Society of Paris (*Annales Médico-Chirurgicales*, No. 3, 1886), M. Guyot presented a patient having a number of little nodosities in the subcutaneous cellular tissue and certain muscles which closely resembled gummy tumors. They had grown very rapidly until they were as large as hazel-nuts, at which size they remained stationary. In order to ascertain the nature of these little tumors, M. Guyot administered the iodides, but met with no result. He then tried salicylate of soda and had the satisfaction of seeing them rapidly disappear. M. Lallier said that such cases were not of great rarity. The tumors were to be distinguished from those of syphilitic origin by their rapid growth, the pain attending their evolution, and the ecchymotic tinge of the skin covering them.

A CASE OF PHONOMIMESIS.—Dr. I. I. Pantyukoff reports, in the *Russkaya Meditsina* of March 16, 1886, a curious case observed by him in the military hospital at Kief some years ago. The patient was a young soldier who involuntarily reproduced with automatic exactness every sound which was made in his presence. His face wore a listless expression, the eyes were closed, and consciousness of his surroundings was apparently dulled, though not entirely extinguished. Words in foreign languages, snatches of songs, the sound of a violin or harmonica, all were echoed with accuracy by his voice; while stamping of the feet, clapping of the hands, and cracking of the knuckles were also imitated by the patient, even though he was lying on his back and the sounds were nearly drowned by other noises. It was wonderful, the writer states, with what exactness every kind of noise was reproduced by this human phonograph, and all sorts of sounds mixed up together were repeated each with its exact intonation and pitch. The patient was under the care of Dr. N. I. Shtcherbina, director of the psychological department of the hospital.

BILATERAL RANULA CURED WITH PILOCARPINE.—In a case of occlusion of both Wharton's ducts, which, distended and filled with saliva, formed two large pyriform tumors, one on either side of the frænum linguæ, Dr. G. Soffiantini conceived the idea of using pilocarpine in order to overcome the obstruction. He reasoned that the sudden and abundant increase in the secretion of saliva would so greatly increase the pressure that a passage would be forced through the ducts. A single hypodermatic injection of one-sixth grain of the hydrochlorate of pilocarpine resulted in the reduction of the tumors to one-half of their former size, and a second injection of a like amount cleared out the ducts completely and resulted in a cure.—*Lo Sperimentale*, April, 1886.

COMPENSATORY HYPERTROPHY OF THE KIDNEY.—The following are the conclusions arrived at by Dr. Lorenz from a number of experiments upon animals (*Zeitschrift für klinische Medicin*, vol. x., Nos. 5 and 6): 1. Compensatory hypertrophy of the kidney consists chiefly in an increase in the cortical substance, although there is also a slight degree of hypertrophy of the medullary portion. 2. The enlargement of the cortical substance is due to: (*a*) Hypertrophy and hyperplasia of the glomeruli in growing animals, but simple hypertrophy in adult animals which have attained their full growth; (*b*) the convoluted tubules are enlarged throughout, the epithelial cells being especially increased in all their dimensions, and their calibre is widened. 3. The slight enlargement observed in the medullary substance is due only to a dilatation of the lumen of the straight tubules, no increase in size of the epithelial cells being noted. 4. The existence of hypertrophy of the connective tissue and of the capillaries could not be determined with certainty.

THE "DEAD-FINGER" SYMPTOM IN BRIGHT'S DISEASE.—This is a sensation similar to that experienced when the finger is immersed in snow, or exposed to a great degree of cold. The patients complain of formication, painful sensations, and cramps in the fingers, and sometimes the finger-tip becomes anæmic, white, and numb. This symptom is usually of very brief duration. In one patient it will last a few seconds only, but will reappear whenever the attempt is made to grasp any object; in another its duration will be for five or six minutes, and it will be noticed to recur at longer or shorter intervals, as one or two days or a week; finally, a third will recall its appearance on a single occasion only during the course of his disease, when it may last for a quarter of an hour. The symptom is localized now in one finger, now in another, the little finger being the one most frequently affected, the middle, the ring, the index finger, and the thumb coming next in the order of frequency. The phenomenon may appear at the beginning of Bright's disease or near its termination, but is of

greater diagnostic importance in the former case, since the other symptoms of the affection may at this time be insignificant or even absent. As to the pathogenesis of this sign Dr. Soyer believes that it is the first degree of local asphyxia of the extremities, and regards it as allied to symmetrical gangrene as sometimes observed. —*Giornale Internazionale delle Scienze Mediche*, No. 3, 1886.

Concealed Penis.—Dr. R. H. Bayler reports the following condition found in a child two weeks old: The root of the penis was attached firmly to the pubis, but the body of the organ could not be seen, being deeply buried under a continuation of the abdominal muscles and skin. The scrotum was not divided into two lateral halves by the raphé, but resembled a large bag. After examining the scrotum carefully the two testes were found, and between them the penis could be distinctly felt. The glans penis made its exit about the middle of the scrotum, between the testes. It had the usual appearance and was covered with the prepuce, and at the apex the meatus urinarius was seen. The child passed water freely during the examination.—*Virginia Medical Monthly.*

Treatment of Asphyxia of the New-born.—Dr. Wm. L. Reid, writing in the *Glasgow Medical Journal*, describes the various methods in vogue for the resuscitation of children born asphyxiated. They are nine in number. 1. Marshall Hall: The patient is turned face downward so as to press on the chest and cause expiration, then turned on the side so as to free the chest from pressure and produce inspiration by means of the elasticity of its walls. 2. Howard: The arms are extended, the wrists being brought together over the head, and the chest is thus expanded. The lower ribs are then alternately pressed on and relieved from pressure, so as to cause expiration and inspiration. 3. Sylvester: The arms are raised upward and forward for a few seconds, and then pressed firmly down against the sides of the chest. By means of their muscular attachments the ribs are raised and air sucked in, which is expelled again when the arms are brought down. 4. Pacini: The feet are fixed, and the operator, standing with the head against his own abdomen, seizes the arms at the axillæ and pulls the shoulders upward and forward, then allowing them to return to their former position. 5. Bain: The shoulders are raised by lifting the body a foot off the table by seizing its hands. They are then allowed to fall back again, thus causing alternate expansion and contraction of the thoracic cavity. 6. Schucking: Like Sylvester's, except that he carries the arms outward as well as upward. 7. Schuller: The operator puts his fingers under the edges of the ribs and pulls them up, afterward depressing them. 8. Schroeder: The body is supported by one hand placed under its back, allowing the head, shoulders, arms, and pelvis to fall backward, with the view of producing inspiration, expiration being caused by sharply bending the body forward so as to compress the chest and abdomen. 9. Schultz: The child is suspended a few inches from the floor by the two index-fingers placed in the axillæ from behind, the thumb lying loosely over the front of the thorax, and the other fingers spread also loosely over the thorax behind, the head being supported against the edges of the ulnar bones. Without delay, in this position, the child is swung sharply upward, until the operator's arms are extended horizontally; then the upward movement is continued more gently so as to bring the legs slowly past the perpendicular, and allow them to sink quietly against the front of the child's body. The weight of the latter is now supported by the thumbs in front of the thorax, and the chest pressed on all round by the fingers, and its arms laid against its sides. This compression through the diaphragm below, and the fingers all round, causes aspirated fluids to flow freely from the mouth and nose. After being retained in this position a few seconds, the body is swung smartly down again into its former position, taking care that now there is no compression of the chest, either before or behind, but simply a suspension of the child on the index-fingers. During this movement the contents of the abdomen fly away from the diaphragm, and, dragging it down, enlarge the chest from below. At the same time the arms are separated from the sides, and by their muscular attachments drag the ribs upward, and in this way air is sharply drawn into the lungs. These movements are continued every four or five seconds, but when a considerable quantity of fluid continues to come from the mouth and nose, the movement of expiration is to be prolonged.

Tertiary Syphilitic Arthritis.—M. Gangolphe has recently published a paper on osteo-arthritis occurring in tertiary syphilis, the conclusions at which he arrived being based upon the morbid changes found in five cases, two of these having been examined by the author himself; the remaining three are quoted from Lancereaux, Méricamp, and Schüller. The author is of the opinion that the existence of only one kind of tertiary joint-affection (the osseous form) is actually proved; but cases published by Gies, Schüller, and Virchow point to the supposition that there exists another variety of joint-affection, characterized especially by chondritis with star-shaped cicatrices and nipple-like projections, thus producing a change bearing some resemblance to the lobulation seen in the liver when attacked by atrophic cirrhosis. The lesions in osteo-arthritis present different characters, according to the period at which they are examined. The affection begins by the formation of a gumma in or near the epiphysis, and, unless the growth remain encysted, it ends by perforating the cartilage. The synovial cavity then becomes filled with sero-purulent fluid. The morbid change extends more and more both in the bone and the cartilage, and the gaps thus resulting from loss of substance become lined by a smooth reddish new membrane. The ligaments remain intact. The synovial membrane is thickened, but without fungosities, and the absence of these, the adhesion of the remaining cartilage to the subjacent tissue, the absence of Koch's bacilli, and the microscopic appearances, serve to distinguish the syphilitic from tuberculous lesions. Further distinctions are the absence of any considerable sequestrum, and of patches of eburnation of whitish color which frequently accompany osseous tubercle. Recovery may take place under specific treatment, or even spontaneously, but deformities of the articular ends of the bones often occur; such deformities are clearly distinct from those due to rheumatic arthritis. From a clinical point of view, syphilitic osteo-arthritis is characterized by effusion of fluid variable in kind, and often small in quantity, by crackling of the joint, by the multiplicity of joints attacked, and by the relative indolence of the lesions. The joint indeed retains its normal functions to a degree that renders it difficult to suspect the extent of the disorder during life. In some cases there is more or less deformity of the articular extremities, and sometimes swelling of the diaphysis. Fibrous anchylosis may also result from osteo-arthritis. In consequence of the marked tendency to spontaneous recovery operative interference is very rarely indicated.—*London Medical Record*, April, 1886.

Vicarious Menstruation from the Ear.—Dr. Stephenoff relates the case of a girl, seventeen years of age, a pupil in the normal academy of Moscow, who suffered from various nervous symptoms at her first menstrual period. She became exceedingly irritable, being especially excited when she heard singing, and had paralysis of the lower extremities. The paralysis gradually disappeared, and the girl did not menstruate again, but at each returning period had vicarious hemorrhages, first from both ears, and then from the left one only. The bleeding lasted for one or two days, and was accompanied by palpitation and pain in the region of the heart. The patient was stout, but anæmic, had much headache and

palpitation of the heart, was subject to fainting spells, and there was hyperæsthesia over the lower part of the spinal column, and anæsthesia of the lower extremities. Examination of the ears revealed nothing abnormal. The hearing was normal, except that it was slightly weakened in the left ear just before and during the hemorrhage. As the drum-membrane was intact the bleeding must have come from the external auditory canal, although the writer was not able to assure himself of this fact.—*Centralblatt für Gynäkologie*, March 27, 1886.

Muscular Anomaly of the Arm.—At a recent meeting of the Section on Anatomy of the Irish Academy of Medicine, Dr. Heuston presented a communication on a curious combination of abnormal muscles in the upper arm (*Dublin Journal of Medical Science*, April, 1886). It consisted of two sets of muscular fibres, the lower of which passed from the latissimus dorsi across the first stage of the brachial artery, while the upper, taking origin from the cartilages of the sixth and seventh ribs, crossed the axilla and third stage of the axillary artery, to be attached with the former set of fibres into a broad triangular tendon, the external border of which passed over the biceps and pectoralis major to be attached into the deltoid, while from its inferior angle a tendon passed to the internal condyle of the humerus. Dr. Heuston considered the lower set of fibres to be an example of the Achselbogen, while he considered the upper fibres to be an example of the chondro-epitrochlearis, the tendon attached to the internal condyle being the proper tendon of those fibres.

The Rôle of the Nervous System in the Causation of Vitiligo.—Dr. A. H. Ohmann-Dumesnil, writing in the *St. Louis Medical and Surgical Journal* for March, 1886, asserts that the rôle of the nervous system in the causation of vitiligo is a very considerable one, and he says that this fact should contribute largely to an effort on the part of all who meet these cases to treat them, and not turn away the patients with the assurance that nothing can be done. He recapitulates the arguments in favor of this view as follows: 1. Analogous cases, where pigment disturbance is known to depend upon some functional or organic trouble of the nervous system; *e.g.*, blanching of the hair through mental emotion, and the loss of pigment in the anæsthetic spots of leprosy. 2. Where there is excess of pigment due to nervous influence, as in chloasma caused by nervous reflex action due to uterine and hepatic troubles. Both of these forms of disturbances of pigment are merely variations of a certain type, of which vitiligo is another variation, the three being types of loss, increase, and displacement of pigment. 3. The distribution of the disease is another very strong presumption in favor of its nervous origin in a considerable number of cases. Vitiligo is, as a rule, symmetrical, and quite often unilateral. 4. The concomitant nervous phenomena seem to corroborate the idea that vitiligo is often directly traceable to a neurotic origin, the majority of patients being subject to nervous affections or having a family history of neurotic troubles. 5. The effects of nervines have been quite marked in some cases. 6. The use of the galvanic current has been attended with success in treatment. 7. The nerve-alterations found in this disease are marked in some cases.

Puerperal Convulsions Without Albuminuria.—Dr. Vuccino reports the case of a woman of ordinary good health, except that she had occasional attacks of hysteria, who in the fourth month of pregnancy was seized with intense frontal hemicrania, recurring every day. When at the end of the sixth month, she was awakened one morning by a severe pain in the head, which was followed by a slight convulsive attack limited to the upper extremities. Later in the day the author found her in general convulsions, unconscious, and with bloody foam coming from her mouth. The pulse was small and hard, the urine was, and remained, free from albumin. After all other means had failed it was determined to induce labor, and this was accomplished by means of warm-water injections. A dead child was expelled from the uterus, and the convulsions ceased immediately. The woman remained perfectly well until the eighth month of her next pregnancy, when she was seized with convulsions even more severe than before. Chloral and chloroform were again tried without effect, and it was again found necessary to induce labor. The convulsive seizures did not reappear until the second month of the succeeding pregnancy, when they returned in slight degree, and ceased upon the occurrence of spontaneous abortion. The urine remained always normal.—*Journal de Médecine de Paris*, April 4, 1886.

Detection of Blood in the Urine.—M. A. Luchini proposes the following method for determining the presence of blood in the urine. One drop of acetic acid and forty-five minims of chloroform are added to two and one-half drachms of the suspected urine. The phial is to be well shaken and then set aside to stand for a time. If the urine contain blood the chloroform, which settles to the bottom, will have a reddish tint, the depth of which will vary according to the amount of blood present.—*Revista Médica de Sevilla*, March 31, 1886.

A Unique Case of Hernia.—Dr. R. H. P. Ellis reports in the *Maryland Medical Journal* of April 17, 1886, the case of a man who was seized with pain in the lower part of the abdomen after having lifted a moderate weight. He was found to have a small inguinal hernia, which was apparently reduced without much trouble. On the two following days the patient was very comfortable, but on the third day, having had no movement from the bowels, he took a dose of castor-oil, supplemented by an enema. This had no effect, and the following day symptoms of intestinal obstruction appeared. The hernia had apparently been entirely reduced, and no tumor could be felt at the abdominal ring. It was determined, however, to make an exploratory incision at this point, and, after a few touches of the scalpel, the search was rewarded by the finding of a small button-like portion or knuckle of intestine, firmly held within the abdominal ring. The operation was followed by a favorable modification of all the symptoms, but on the second day symptoms of general peritonitis supervened, and the patient died four days after the operation.

Rectal Exploration in Hip Disease.—Dr. Arnold Schnitz, writing in the *Centralblatt für Chirurgie*, of March 13, 1886, calls attention to the value of examination by the rectum in doubtful cases of morbus coxarius. He relates several cases in which he was enabled to clear up uncertain points in diagnosis, and to determine the seat of the disease. In one case of vertebral caries, in which coxitis was also suspected, rectal examination revealed the presence of an abscess on the opposite side of the cotyloid cavity. The author somewhat rashly concludes that he will always in future examine per rectum every case of hip-joint affection which he is called upon to treat.

Iodoform in Gout.—Professor Testa, assuming that iodoform fulfils all the desired conditions in the cure of gout, since it accelerates the processes of oxygenation, increases the secretion of urea, and diminishes the proportion of uric and oxalic acids, has employed it in several cases of this affection. The dose varied from one to four grains. This use of iodoform gave excellent results. The attacks of gout became less frequent, they were diminished in intensity, and their duration was shortened. The author says it is contra-indicated, or, at least, should be administered with great caution, when the gout is complicated with disease of the kidneys, for, as in such cases it is not completely eliminated from the system, it may give rise to untoward symptoms.—*Le Moniteur Thérapeutique*, April 5, 1886.

THE ETIOLOGY OF SCARLATINA.—At a meeting of the London Medical Society Dr. Hingston Fox read a paper with the object of proving that scarlatina and diphtheria resulted from absorption of a specific poison by a previously inflamed tonsil. According to this gentleman, the physiological rôle of the tonsils is to absorb the surplus saliva, and in doing this various poisons were apt to pass into the system.—*Medical Press and Circular*, April 7, 1886.

HÆMIC CHANGES AFTER EXTIRPATION OF THE SPLEEN.—At the last sitting of the Congress of Russian Physicians, Dr. Winogradoff read a paper on the above subject. He had operated on a dog which had previously lived in the yard on an irregular and sometimes insufficient diet. After extirpation of the spleen, which was performed six years ago, the animal was kept in the open air chained, on a good mixed diet and in a good kennel. Up to the present he has kept lively and in good spirits. Examination of the blood showed that in the first year after the splenotomy increase in the blood-serum was noted until the year 1885, when the quantity diminished, but it again returned to the normal. The red blood-corpuscles increased in the second and third years after the operation; lately they had diminished, however, and the microcytes were few in number. The specific gravity of the blood was 1.054, that of the serum 1.026. The quantity of hæmoglobin, which had already diminished at the end of the first year, varied a little during the later years, and had again sunk recently. It appeared noticeable that the production of hæmoglobin had diminished. At first the production was rather more active, but it always remained below the normal, and fell again latterly, from which the experimenter drew the conclusion that the compensatory activity of other organs gradually diminished, and that the dog would eventually die of gradually increasing deficiency of hæmoglobin, as, notwithstanding abundant food and fresh air, he was steadily losing weight. —*Medical Press and Circular*, March 31, 1886.

THE PATELLAR REFLEX IN LOCOMOTOR ATAXIA.—Hirt reports three cases of tabes dorsalis (with one autopsy) in which the patella tendon reflex was unaffected, and in one case it remained up to the time of death. Westphal has also, he says, reported two similar cases. In a fourth case Hirt noted the preservation of the knee-jerk on one side, while it had been absent for over eighteen months in the other leg. He believes that, even with extensive degeneration of the posterior columns of the cord, the part regarded by Westphal and others as the anatomical seat of the patellar reflex may remain intact.—*Aerztliches Vereinsblatt*, March, 1886.

EXTERNAL URETHROTOMY IN THE TREATMENT OF RETENTION FROM ENLARGED PROSTATE.—In the *Centralblatt für Chirurgie*, Professor Braun, of Jena, advocates external urethrotomy for the relief of retention of urine due to prostatic disease associated with false passages, when it is found impossible to introduce a catheter by the usual way into the bladder. Forcible catheterism is an uncertain and dangerous method, and to capillary puncture and aspiration above the pubes it is objected that such treatment is troublesome to the patient and painful, that it has to be frequently repeated, that it does not allow necessary injections into the bladder in cases of strongly alkaline urine, and, finally, that it is not free from risk. The danger consists, not in direct injury to the peritoneum, but in the risk of inflammation of the connective tissue near the bladder from the penetration of decomposed urine into the punctured wound, and of extension of this inflammatory action to the peritoneum. The same objections apply to the method of puncture and retention of the cannula. External urethrotomy allows a constant and free discharge of urine through a retained catheter of full size, and also thorough and repeated cleansing of the bladder by injections, which would diminish or possibly dispel altogether the infective properties of the urine. Such treatment will also enable the surgeon, in the not uncommon case of a complication of prostatic hypertrophy with vesical calculus, to discover and remove the latter. In dealing with the objection to external urethrotomy as being too severe an operation in comparison with suprapubic puncture, Braun points out that the existence of false passages passing through the prostate into the cellular tissue between the bladder and rectum, or into the cavity of the bladder, may cause suppuration and pyæmia, and therefore indicates prompt and effectual treatment, favoring an uninterrupted flow of urine, and a ready discharge of any collection of pus.

ACUTE GENERAL ŒDEMA.—Professor Da Costa had at his clinic recently a case of acute general œdema without kidney, heart, or blood affection. He considers this a case of what the old writers called inflammatory œdema, and to which he applies the term catarrhal œdema. The lesion is principally in the areolar tissue. He recovered in about a week, under an active diaphoretic treatment. At first ammonium acetate was given, afterward jaborandi.—*College and Clinical Record*, April 1, 1886.

SILICATE-OF-SODIUM JACKETS.—Dr. S. T. De La Mater, writing in the *New England Medical Monthly*, says that he has found sodium silicate a most excellent substitute for plaster-of-Paris in the treatment of lateral curvature of the spine and Pott's disease. In using it for the jacket in spinal disease, he first fits the undershirt snugly to the body, and over this places a thin layer of cotton wadding. He then rolls one layer of a plaster bandage around the body, and over all three or four thicknesses of cheese-cloth saturated in silicate of sodium. The chief advantage of this application is its lightness, the jacket so constructed not weighing more than six or eight ounces, and yet being sufficiently firm to give perfect support. Dr. De La Mater cautions his readers against potassium silicate, which is often substituted for the sodium. The latter is, when pure, of a light amber color, having the consistency of syrup, while potassium silicate is pale white.

URETHRAN.—Dr. A. S. Myrtle writes in the *British Medical Journal* that he has used urethran in over fifty cases, in the past four months, as a sedative and hypnotic, and his experience of its action encourages him to recommend the drug strongly, believing that, in certain cases, it will prove of great value. The cases in which he prescribed it were of the usual run of every-day practice, where a sedative or hypnotic was required: general restlessness, sleeplessness, neuralgia, catarrh, certain forms of skin-affections with great irritation, also rheumatism and gout. Many of his patients had some peculiarity of constitution which prevented the use of opiates of the usual type; and it is in this special class that the writer thinks urethran will prove of great value. One gentleman, who had suffered from insomnia for weeks, and who could not tolerate opium or chloral, took fifteen grains at bedtime with the most perfect result. He wrote: "The sleep caused was most pleasant and refreshing. I awoke without a headache, with appetite for breakfast, and what was equally agreeable, there was no interruption to any of my functions." Similar testimony was given by the majority of patients, who had taken full doses to produce sleep. In smaller doses its action is less marked, still it is decidedly calmative and agreeable, causing no unpleasant effect, such as nausea, flatulence, constipation, or headache. It does not affect the nerve-centres of circulation or respiration, but spends itself on the cerebrum. It possesses, therefore, Dr. Myrtle says, great advantages over the older and valuable sedatives, which have certain evil influences, especially in exceptional cases. Given in gout and rheumatism in full doses, alone or in combination, it has the great advantage over morphia of not interferring with the action of the bowels or kidneys; besides, it is not unpleasant to the taste.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 5, 1886.

IS TETANUS AN INFECTIOUS DISEASE?

IT needs no argument to prove that a better knowledge of the cause and nature of tetanus is greatly to be desired, bearing as it does so directly upon the treatment of the disease. For, until we know what tetanus really is, all treatment must be purely empirical and symptomatic. There are a sufficient number of well-authenticated cures of the disease on record to prove that the affection is not necessarily fatal, and could we but discover what it is, and what is its cause, we should be in a far better position to apply our remedies intelligently and with a definite aim, and should doubtless be able to save many more of our patients.

The fact that, in a very large proportion of cases, tetanus follows the receipt of a wound, has led several observers in recent times to regard the affection as dependent upon the introduction of some virus from without. Roser was one of the first to advance this theory. The earliest experiments by inoculation of animals were without result, possibly because they were made with dogs, which are said by Rosenbach never to suffer from tetanus.

At the Fifteenth Annual Meeting of the German Surgical Society, held recently in Berlin, Rosenbach presented an interesting paper on this subject, in which he gave the results of a number of experiments performed on guinea-pigs and mice. A man was received into the Göttingen clinic suffering from tetanus, consequent upon gangrene of the feet, from which he died. The author took some small pieces of tissue from a portion of the foot not invaded by gangrene and inserted them under the skin of the thigh of two guinea-pigs. The animals soon exhibited marked tetanic symptoms. From these other guinea-pigs were inoculated in a series, one from the other, and then the virus was transferred to mice, all the animals dying eventually with unmistakable symptoms of tetanus. He was not able to obtain pure cultures of any single micro-organism, but he succeeded in causing the disease by inoculations with a mixed culture carried to the fourth generation. By exposing the cultures to a certain temperature he was able to destroy all forms of microbes except two varieties of bacilli, and as these cultures were still capable of exciting tetanic symptoms he drew the conclusion that it was to the presence of one of these two forms that the disease was due.

Assuming that tetanus results from the introduction of a bacillus into a wound, the next question demanding solution would be from whence the micro-organism comes. As bearing on this point, the experiments of Nicolaier and Flügge are interesting. While engaged in a study of the micro-organisms found in garden soil, they discovered that a culture of a certain form of bacillus, when injected into the tissues of rabbits, guinea-pigs, and mice, was capable of causing symptoms identical with those of tetanus. Socin, of Basle, has also seen similar symptoms produced in mice by the introduction beneath the skin of a little earth taken from the garden.

There are numerous facts which seem to lend weight to the theory of the infectious nature of tetanus. One of the most striking of these is the case mentioned by Betoli, of three slaves who died of tetanus after eating the flesh of a bull which had perished from the same disease. Another is that the affection does not follow immediately upon the receipt of a wound, but that a certain period of incubation, varying from a few hours to two or three weeks, is present. This, it is true, might be equally applicable to the theory of a lesion starting from the peripheral nerves and travelling to the medulla, but such a lesion is not found on post-mortem examination.

The geographical distribution of the disease might also be brought forward as an argument in support of the view of a micro-organism residing in the soil. Tetanus is most prevalent in warm climates, although by no means confined to tropical countries, and it is sometimes very common in certain isolated communities, especially those living on islands and separated by natural barriers from the rest of the world. It is said to be very prevalent on the eastern end of Long Island, and if anyone succeeds in isolating Rosenbach's bacillus from the fish manure, which is so thickly spread over that unfortunate region, the theory of infection in tetanus will receive a strong impetus.

But there is another theory which can, perhaps, be made to fit in with these facts as easily as the one which we have just considered. We refer to the doctrine of leucomaines recently presented so ably before the Paris Academy of Medicine by M. Gautier. It might easily be conceived that a form of decomposition in the wound should result in the elaboration of certain animal alkaloids, producing symptoms similar to those caused by strychnine and some other alkaloids of vegetable origin. Doubtless M. Peter and his followers will not let pass such a favorable instance as this for the support of their views.

THE DIAGNOSIS OF DEATH BY DROWNING.

IT is stated by many writers, and is the pretty general belief of those having but a moderate acquaintance with medico-legal literature, that it is impossible in many cases to determine whether, in the case of a body found in the water, death resulted from drowning or whether the body was immersed after life was extinct. The principal diagnostic points are the external appearance of the cadaver, the presence of water in the lungs and stomach, and of froth about the nostrils and mouth, and the condition of the blood.

M. Henri Bougier, in a recent thesis (*Gazette Médicale de Paris*, May 8, 1886), presents a review of the opinions of many of the authorities in regard to these

points, as well as the results of observations made by himself.

As to the external appearance of the body, he says there is nothing characteristic. Marks of violence may, of course, exist and yet prove nothing, since the individual might have received injuries, accidentally or at the hands of others, and afterward have fallen or been thrown into the water.

Water may enter the lungs of bodies immersed after death, but in this case it is found only in the bronchi of medium size, while in the drowned it is drawn into the smallest tubes. The presence of water in the stomach, he says, is a fairly conclusive evidence of death by drowning, although, we would add, its absence would not necessarily prove the reverse, but may indicate, as Tidy remarks, a rapid death by asphyxia before the sufferer had had time to swallow.

M. Bougier regards water in the middle ear as a sign of considerable importance, having found it in twenty-one out of twenty-seven cases of death by submersion.

The froth about the mouth and nose is never found, he says, in bodies which have been immersed after life was extinct. Its presence would, therefore, point to drowning as a cause of death, but it should be remembered that if the person have been rapidly asphyxiated there might be no froth present, assuming, as is commonly supposed, that it is produced by the sufferer's struggles for breath. And, again, it will not be found if the face have been long out of the water when the examination is made.

The fluidity of the blood is one of the most striking conditions found in those who have died from submersion. This is especially noticeable, the author remarks, when the periosteum is stripped off from the cranium. The blood will be seen to ooze out from the bone in minute drops, which rapidly increase in size and soon begin to trickle down the side of the head. This fluid condition of the blood may be found in those asphyxiated by deleterious gases, or poisoned by opium or certain other narcotics, and it might then be necessary to examine the blood chemically or by the spectroscope. In those immersed post-mortem, M. Bougier always found clots in the heart and great vessels, and even in dogs killed by illuminating gas and then immersed these clots were present. It is stated, however, on the authority of Professor Brouardel, that the blood remains fluid only in the case of a slow death, and consequently, if asphyxia have been rapidly produced, clots may be found in the heart even after drowning.

The conclusion to be drawn from the investigations of the author and of others would seem to be that, in certain cases, it might positively be asserted that death did occur from drowning, but that in other cases, especially if asphyxia have been rapidly produced, all certain signs might be absent, and the diagnosis could be made only after a most careful and discriminating study of all the evidence obtainable by external and internal examination of the cadaver.

A REMARKABLE RECORD.

Mr. Lawson Tait publishes a list of one hundred and thirty-nine consecutive ovariotomies performed in 1885, without a death. This success, says Mr. Tait, is the basis of a large number of lessons. One of these is that it has absolutely destroyed our fear of the peritoneum, and "has justified our opening that sacred sac very much as we open our pockets." After ovariotomy, "on the slightest indication of peritonitis, we give a purgative and the inflammation subsides."

"The absolute want of fear of the peritoneum," he adds, "which has grown out of our success as a matter of necessity, has brought about many other startling changes. We are now dignified by the name of the 'Birmingham School of Gynecology' and our views are treated with respect; but it is not many years since language of a totally different kind was levelled against my colleague, Dr. Savage, and myself, and many blows had to be received, and not a few were given back. But the incredulity which was so freely expressed in this country by people who would not come to see for themselves, was speedily overcome by the evidence of those who came in large numbers from America, and finally by a missionary tour which I undertook in the States, demonstrating on material freely supplied to me there, and to audiences neither stupid nor prejudiced, many of the most important facts which were capable of demonstration, according to Sir Spencer Wells, only in Birmingham, and were non-existent in London or elsewhere in Europe. This attitude of Sir Spencer Wells is apparently still maintained by him; for, in a recent address delivered here, he passed by all these facts without allusion to them, 'deaf as the adder which closeth her ear.'"

As may be seen, Mr. Tait neglects no opportunity of giving Sir Spencer Wells a rap.

Another change effected by the "Birmingham School" is the adoption of short incisions, Mr. Tait's incisions only averaging two inches.

Mr. Tait still adheres to dry, absorbent cotton-wool as a dressing, quite free from any germicide. His fear of germs has steadily diminished. In the treatment of the peduncle the intra-peritoneal method is always adopted, and the silk ligature is also uniformly employed, whereas Dr. Keith uses the cautery. In cleansing the peritoneal cavity sponges have been given up, and the cavity is irrigated with blood-warm water, neither boiled nor disinfected, but "full of germs and spores."

The conclusion which Mr. Tait enunciates with the greatest apparent satisfaction is, that "all the conclusions formulated by Sir Spencer Wells in 1878 have been reversed."

The grievance must be profound which leads so distinguished and skilful a sugeon as Mr. Tait to load his invaluable contributions to surgical art with evidence of personal ill-feeling. But it is in history that our eminent surgeons have been eminent fighters.

THE MAXWELL TRIAL.

The Maxwell trial, which was recently finished in St. Louis, has brought out some points of medical interest. Maxwell's defence was that he killed Preller accidentally while administering chloroform, and the chloroform was given in order to enable him to get a catheter through a stricture. Now, as surgeons never give anæsthetics when an attempt is to be made to pass a catheter, it follows that Maxwell, if he did as he said, was an utter ignoramus. This, we believe, he admitted. But, being

totally ignorant of surgery, he yet attempts to give an anæsthetic and perform an operation! The story is a very extraordinary one.

On the other hand, it is well known that it is not an easy matter to kill a person with chloroform against the person's will, and without leaving marks of violence. The most rational explanation, so far, is that Maxwell is not entirely sound in mind. If the defence had made this claim they might have made out a better case for their client.

AN EXPLANATION BY M. PETTIT.

We find in *L'Union Médicale* of May 11th, a correction by M. Pettit of his statement concerning foreign delegates to the Washington meeting, upon which we commented in these columns under date of April 24th. He writes that, in the desire to be brief, he failed to state clearly what were the promises made by Dr. Billings concerning the expenses of those proposing to visit this country in 1887. What this gentleman really did say, he now explains, was that the fatigue of the voyage would not be great, since it would be made in the summer during the pleasant time of the year. As to the expense of the trip, he thought it would not be as heavy as his hearers expected, as he hoped that the steamship companies would consent to a considerable reduction of the ordinary rates, and that his American confrères would extend to their visitors as cordial a hospitality and as hearty a welcome as had been given to the foreign guests in Copenhagen. He adds that though Dr. Billings was careful not to make a definite promise, but simply expressed his hopes of what would be done, he spoke with so much fervor that none of his auditors doubted that his hopes would be realized. He himself at first thought that Dr. Billings spoke officially for the profession in America, but such was not the case.

We are glad that M. Pettit has so generously corrected this error, which we are sure he committed in good faith, and into which he was doubtless led through his unfamiliarity with our language when spoken. For, while every one in this country is satisfied with Dr. Billings' explanation, our brethren in France might have supposed, as, indeed, apparently they did, that the consent of the Congress to meet in Washington was obtained through misrepresentation. The scriptural injunction to "be swift to hear, slow to speak" is an excellent rule, and one that might have been advantageously followed by some others, who are not so far away from us as M. Petit, in this matter of the International Congress.

A POSTHUMOUS TEST THE ONLY ONE FOR GREATNESS.

There was a time when a man of mark, whether in letters or politics, science or art, closed his eyes serenely on the world without a misgiving but that he had done all in his power to show that henceforth he had a mortgage on its fame to be transmitted to his heirs and assignees forever. But the nineteenth century changes all this. No man will be considered truly great until he has proved it, not only by his works, but by exhibiting his brain; the calvarium must be opened, and from its casket the organ of thought must be lifted by scientific fingers, peered at through investigating glasses, searched with microscopic lens, and then if it can be shown that the one undergoing the crucial test has the third frontal convolution very much developed, and the upper part reduplicated where ordinary brains present only a wavy appearance; if the right quadrate lobe is very complicated and divided into two parts by a furrow branching off from the occipital fissure, and that of these two parts the inferior has a number of stellate branches, and the occipital lobe is small, especially in the right side, and the whole appearance is "very fine, great, and diagrammatically regular;" if a brain can show all this its owner shall be coroneted with laurel, for such was Gambetta's brain. So says the Anthropological Society in Paris; and such a brain, irrespective of previous deeds, is necessary to admit one to Walhalla.

THE LAWS OF REPRODUCTION.

It is not our intention to interfere in the correspondence in our pages on the subject of the "Determination of Sexes." We desire, however, to point out that Mr. Albert C. Beale, who wrote recently an interesting letter on the subject, appears, unfortunately, to have based his arguments on entirely false premises, which of necessity destroy the value of his conclusions.

Our correspondent claims as a law the principle that "the ovum only is necessary to reproduction," and that "the spermatozoid is not always necessary to the life of the germ."

We believe that the first proposition, so far from being a law of nature, is in fact contrary to the teachings of our most advanced naturalists, and an error.

The example given in support of this principle, in the aphis, appears to show that Mr. Beale's knowledge on the subject is rather limited. It is true, as he states, that the female aphis can propagate a whole season without the presence of the male, but his explanation is very nude of the truth. He says, "their ova not only develop into adult insects," "but, what is more uncommon, become perfect females."

These assertions are wholly unsupported by any authority; in fact, every work on the subject states that it is only in the fall of the year, when this method of reproduction has ceased, that the "true females" and "perfect insect" appear. This abnormal process of reproduction has been studied out, and is well understood at the present day as being an example of what is known as the "alternation of generation;" there are numerous forms of life in which it takes place, where at one time of life development takes place by budding, at another time by eggs. In the aphides the reproduction from the virgin insect are merely buds (not ova), and are not fertilized, and do not need it.

As Huxley says, it may appear paradoxical to speak of one million of *aphides* being parts of one morphological individual, but to a naturalist acquainted with the remarkable and similar forms of reproduction it causes no shock. In the *hydrozoa* and *medusæ* we find equally remarkable acts of reproduction, and in some forms these buds lead a free life, and in others they remain attached. In the lower forms of life we can watch the process under the microscope and experience no surprise, but

when we see the same process extended to the higher forms of life, where it is abnormal, as Huxley says, it gives a shock. Surprise, however, may be diminished when we consider that *planarians* may be violently cut in pieces, and that in eleven days each piece will become a well-formed planarian.

The explanation of the reason why parthenogenesis has survived in the case of the aphides and some kindred forms appears to be that it enables them to come into existence immediately in countless numbers, and thus insuring existence when exposed to great vicissitudes in the struggle for existence; whereas, if limited to the slow process of ovulation, the species would become extinct.

We think we have shown that the special mode of reproduction claimed by Mr. Beale in the aphides is something abnormal, especially as in this case it merely lasts for a part of the season, at the end of which the usual sexual process is called in force to continue the species. It is, therefore, no law of nature; and as to his proposition that the male element is not essential, we may remind him that in all animals above the protozoa, including the sponges, male and female reproductive elements are to be distinguished. Even in the protozoa, where no true sexual generation occurs, something very similar takes place in what is called conjugation, where two individuals coalesce and become one body.

SOLUTION OF FALSE MEMBRANES.

FOR many years, lime-water was the only solvent recommended for use in dissolving false membranes. During the past few years, several new remedies have appeared, and some of them seem to have positive value. Perhaps the two most notable ones are trypsin and papayotin. With the value of the former the readers of THE RECORD are familiar, as several articles upon the subject have appeared in our columns.

It must be premised, with all these solutions, that the conditions of artificial digestion of fibrine and the solution of fibrinous pseudo-membranes are not exactly the same. In one case, the substance to be acted upon possesses no vitality of its own. In the other, it is in contact with living tissue. But therapeutics result from clinical observation, and it has been found that both trypsin and papayotin solutions do cause a disappearance of fibrinous exudations.

One difficulty in regard to trypsin has been the preparation of a permanent solution. Repeated trials of various antiseptic agents have shown the preferable one to be chloroform (pure), in the strength of about one per cent. Of course, the objection to most antiseptics is that a strength necessary to keep the solution inhibits the action of the ferment. Chloroform has been found to be free from this objection, and seems to be the ideal agent. Another important fact has been demonstrated in regard to the temperature at which these solutions should be used. It is found that at a temperature of 130°, the action is speedier and more efficient.

In the *American Journal of Pharmacy*, November, 1885, Martin gives the results of his experiments with papayotin, a proteid derived from papaw juice (carica papaya). He found it soluble in distilled water, and precipitated by nitric acid. It differed from a native albumin, however, in not being thrown down by heat. The results of Martin's experiments in the artificial digestion of milk were convincing as to the actual digestive power of the new agent. He found that its action was much slower than that of trypsin, and that it did not result in a true peptone. Of course, this latter point is non-important so far as the solutions of false membranes is concerned.

Many physicians have made trial of trypsin in diphtheria, and the verdict is quite general in its favor. The use of papayotin has been by no means so general. First recommended, we believe, by Rossbach, it was afterward regarded by him as very uncertain, on account of the variability in preparations on the market. This objection has been removed by greater care by the manufacturers. Merck's preparation is now considered reliable. It is over five times as expensive, at present market rates, as trypsin.

With both the above-named solvents, an alkaline reaction favors activity. Of course, the mere removal of inflammation exudations is but a part of the problem. On the theory of the local nature of diphtheria, with subsequent constitutional infection, their removal is a matter of necessity. Treatment with reference to this end must be begun early. The use of these solutions seems to promise good results. They are, however, at the best, only adjuvants. The terrible depression of the disease must, from the outset, be counteracted.

News of the Week.

PENNSYLVANIA STATE MEDICAL SOCIETY.—We learn from our despatches that there is considerable excitement over the fact that the Philadelphia delegation to this society has not been allowed to register, and that the matter has been referred to the council. Up to the time of going to press no decision has been rendered.

TRANSPLANTATION OF THE TENDON OF A DOG TO MAN.—M. Peyrot, at the meeting of the Paris Société de Chirurgie, May 5th, reported a case in which retraction made it impossible to suture the divided ends of the medius. He removed a piece of tendon from a living dog and sewed it to the divided tendon. The result was successful functionally as well as anatomically.

SEVENTEENTH ANNUAL REPORT OF THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.—The benevolent work of this association continues to prosper. The permanent fund, which was already nearly eleven thousand dollars, received an increase of over one thousand dollars during the year. Disbursements were made to the families of ten physicians who died during the year. Money was also loaned to a sick member out of the permanent fund. The officers are working hard to increase the society's membership and widen its field of usefulness. In this they deserve a hearty co-operation from the profession.

THE LOWEST TEMPERATURE ON RECORD.—Dr. C. W. Suckling reports in the *Lancet* the case of a woman dying from myxœdema, whose temperature the day before ranged from 66° F. to 76° F. The pulse was 36; respirations, 12.

THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY held its annual commencement on May 29th, when a class of eight was graduated.

DR. DYCE DUCKWORTH took a trowel to the Queen and received knighthood in exchange. The trowel was the one used by the Queen in laying the corner-stone of the Royal College of Physicians and Surgeons.

OUR LEARNED AND SCHOLARLY CONTEMPORARY, the *Medical and Surgical Reporter*, is a stalwart supporter of the Old Code. This is an excellent thing, and is another reason for admiring the sun-set covers of our neighbor. We believe, ourselves, in all that is moral in the Old Code, and especially in the section which says, "it is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." Yet we observe, with sorrow, that there regularly appears in the daily papers an advertisement of a certain proprietary "water," which is "the famous specific for the cure of Bright's disease," and is endorsed by D. G. Brinton, M.D., of Philadelphia. We beg our erring contemporary to set a better example.

PASTEUR DEFENDS HIMSELF.—In reply to my remark that the drift of opinion in America seemed to be that it is necessary to wait for proofs of protection in those already inoculated, he said with great energy: "Wait? I have no objection. *I* am waiting. But consider this: In October last I began systematically to inoculate human beings. Up to this moment (April 29th) we have inoculated 907 persons. How many deaths? One. One only (for the Russians cannot justly be counted), and when this one (the Pelletier child) came to me it was too late. Before I began to inoculate human beings, how many of those bitten by mad dogs in France died? Sixteen per cent. Since last October only one death in 907 cases! What more can you ask? Scientific men once doubted my having discovered a means of preventing cholera in chickens and charbon in sheep. When I announced my discovery at the International Medical Congress in London, Koch said, 'Pooh!' and Chauveau simply loaded me with sceptical objections. Do they do it now? Let the fact that 500,000 sheep are inoculated every year in France for peasants who fight to save a two-sous piece and yet must pay four sous per head for inoculation every spring, be the answer. The Germans are angry, especially Koch, because France has the merit of this new discovery of protection against rabies. They think because they conquered our country in 1870 that they can be our masters in this field, and therefore they spread broadcast their scepticism against me. They lack generosity. They are behaving like children."—*Cor. Bost. Med. and Surg. Journ.*

IMPORTING FOREIGN SURGICAL TALENT.—Boston was obliged to experience the mortification last year of having a British gynecologist, Dr. Keith, called all the way from Scotland to give his advice. Now it may feel satisfaction in learning that a Berlin surgeon has been summoned to London to perform a thyroidectomy on a celebrated barrister there.

THE ACCOUCHEMENT OF A TURKISH PRINCESS.—Dr. J. A. S. Grant, of Cairo, Egypt, writes to the *Albany Medical Annals* that he was recently summoned to conduct the accouchement of a Turkish princess. The lady in question had heard of chloroform and wanted it given, hence the violation of the ancient custom. Dr. Grant gave her the chloroform when the pains came on. Between the pains the patient smoked cigarettes. Before the event was over her husband brought in a Turkish doctor, in order that he might learn how to give the anæsthetic. Everything went off well, and there is great probability that European methods will begin to prevail in the conduct of accouchements in the harem.

LADY MEDICALS AND THE PHILADELPHIA COUNTY MEDICAL SOCIETY.—The appearance of the names of several women practitioners on the list of propositions for membership in the Philadelphia County Medical Society indicates that the struggle which formed so prominent a feature in the Society two years ago is to be resumed. It will, perhaps, be impossible to predict the outcome of this second attack.

A PRURIENT MEDICAL JOURNAL ON RELIGION.—A weekly Parisian journal, the *Journal de Médecine*, has been criticising "the Yankees." The journal in question supports a "feuilleton" made up of stories and poems so-called which are generally obscene and rarely witty, and which are published under the head of "Anecdotes Médicales," etc. Of late the *Journal* has regaled its subscribers with a translation of the *Pall Mall Gazette* exposures, which have formed a kind of under-current of sewage for several weeks. Naturally the *Journal* is astonished to read an article in THE MEDICAL RECORD entitled "The Doctor and Religion," and having translated it we are taken to task for bolstering up hypocrisy and advocating "a religion of the toilet." Our editorial was a plea for the qualities of reverence and faith, and what it had to do with the toilet is hard to see. At any rate we feel that we need not explain, and least of all justify, our remarks. We certainly do not ask our contemporary to be religious; indeed, if he will only be clean and decent it will be a great gain. At present his faith seems mostly pinned on prurient literature and medical doggerel. Our contemporary by and by may be fitted for religion; at present he needs education.

THE WEEKLY MEDICAL REVIEW heads its department of "Notes and Items" with

> "A chiel's amang you takin' notes,
> And, faith, he'll prent 'em."

Our usually alert contemporary was nodding when it printed the above lines, and for the credit of the present geographical and future medical centre of the country we trust they will be corrected.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE is the title of the new medical college which begins work in Pittsburg next October.

CONSUMPTION FROM THE MILK OF CITY COWS.—The Paris Council of Health has reported in favor of the expulsion of dairy cows from Paris. There are upward of five thousand of these animals in the capital, and they are claimed to be a prolific source of pulmonary consumption. It is even said that the milk of a great number of them was alive with the bacillus tuberculosis. Many of these animals have been subjected to in-and-in-breeeding, thus intensifying predisposition.

THE SKIN AND CANCER HOSPITAL.—The "Kirmess" held for the benefit of this charity last week netted between five and eight thousand dollars. The kirmess was held out of doors, and was very picturesque. There was a great deal of fashion, if not of beauty, in attendance.

DR. R. W. PEASE, a surgeon who was prominent in the medical department of the army during the war, died suddenly at Syracuse from heart disease on May 28th.

THE LONG ISLAND COLLEGE HOSPITAL held its annual commencement on June 2d, and graduated forty-nine students.

THE NEW HAMPSHIRE STATE MEDICAL SOCIETY will hold its ninety-sixth annual meeting at Concord on June 15th.

THE PASTEUR INSTITUTE.—The Chamber of Deputies has voted 100,000 francs to the fund for the establishment of the Pasteur Institute.

THE NEBRASKA STATE MEDICAL SOCIETY held its eighteenth annual session at Lincoln, June 1, 2, and 3, 1886.

THE NINETY-FIFTH ANNUAL MEETING OF THE CONNECTICUT MEDICAL SOCIETY was held at New Haven on May 26 and 27, 1886, with the President, Dr. E. C. Kinney, in the chair. The opening address of the President was followed by the report of the Treasurer, Dr. E. P. Swasey, which showed a balance on hand of $501.02. The following officers were elected for the year ensuing: President, T. M. Hill, M.D., of Willimantic; Vice-President, Francis Bacon, M.D., of New Haven; Secretary, S. B. St. John, M.D., of Hartford; Treasurer, E. P. Swasey, M.D., of New Britain. The President's address was a history and study of "Diabetes Mellitus" from the time of the first discovery of sugar in the urine to the present time.

He arrived at the conclusion that the disease appeared to be on the increase, and that it was particularly affecting our profession. He urged that operations on diabetic patients were dangerous.

Dr. W. H. Carmalt related the case of a woman who had a cataract, on whom he did not dare to operate while she had diabetes mellitus, but when the symptoms had disappeared he did so. She never recovered from the shock, and there was no effort on the part of nature toward repair, and she finally died on the fourth day.

Dr. A. W. Nelson, of New London, related four cases of diabetes mellitus that he had had under his care. One case was that of a man who had both albumen and sugar in his urine, but was comfortable at present, under treatment by opium and arsenic.

Dr. A. T. Douglas thought if any operation was to be performed where there was diabetes mellitus, that it should be early in the disease.

A paper on the microscope in its relation to disease was presented by Dr. J. W. Wright.

Dr. J. G. Stanton had prepared a paper with the title "O Tempora! O Mores!" The points of his paper were that qualified physicians should demand from the Legislature laws protecting the people from the numerous quacks that infest this State and deceive the public with the assumed name of "doctor."

In accordance with a motion made by Dr. Carrington, that a committee of three be appointed by the chair to confer with the Homœopathic and Eclectic Societies in reference to the adoption of an act substantially like that recommended by the American Medical Association, Drs. Carrington, Wainwright, and White were appointed.

Dr. W. S. Munger read a paper on morbus Brightii, and Dr. S. D. Gilbert one on pneumonia.

These papers were interesting and practical, but advanced no new ideas.

Dr. F. E. Beckwith read a paper entitled "The Treatment of Laceration of the Cervix Uteri," and gave the history of twenty-six original cases of trachelorrhaphy. He thought that in all cases of parturition the woman should be examined in about six weeks after delivery, and if any eversion or erosion was found resulting from a laceration of the cervix uteri, that trachelorrhaphy should be performed.

Dr. P. H. Ingalls did not think an operation should be performed when there was any cellulitis.

Dr. F. H. Whittemore remarked that in many cases bad symptoms were not developed until several years after parturition.

DR. CONSTANTINE J. MACGUIRE has been appointed Visiting Physician to St. Vincent's and Charity Hospitals, New York.

RESIGNATION OF PROFESSOR L. M. BINGHAM.—The Trustees of the University of Vermont unanimously adopted the following resolutions with reference to the recent trouble in Burlington:

"*Resolved*, That while this board of trustees recognizes the right of students in any of the departments of the University to ask their attention to any well-founded grievance, they regard the petition of the medical students to the medical faculty, which has been by that faculty laid before the trustees, in effect demanding the resignation of Dr. Bingham as professor of surgery, as so dictatorial and offensive in manner, and the conduct of the said students in refusing to attend lectures as being so like lawlessness and violence, that this board cannot properly consider the same.

"*Resolved*, That the trustees express their confidence in the capacity and qualifications of Professor Bingham for the duties of the chair of surgery in the medical department of this University."

In view of this vote of confidence on the part of the trustees Dr. Bingham tendered his resignation, which was accepted.

A PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION ADVISING A "BOYCOTT."—The late President of the American Medical Association, Dr. Wm. Brodie, in his annual address, accused the *New York Medical Journal* and the *American Practitioner and News* with having antagonized the Association, and said that these journals had better change their editors "if they wished to retain the patronage of the members of the Association." This is nothing more nor less than a threatened "boycott," and it was warmly resented in a letter written by Dr. D. T. Smith to the *Weekly Medical Review*. Dr. Smith says: "I had cherished the pleasant delusion that the members of the American Medical Association, as indeed all progressive physicians everywhere, selected their professional journals with a view to the thoroughness, freshness, and high character of their

contents, and the literary excellence of their style, and not because they might be found trimming to every passing breeze of opinion. Notwithstanding the baselessness of the charge referred to, and the question that urgently suggests itself, as to the propriety and dignity of going out of the way to introduce personalities into an address from the exalted position of President of the American Medical Association, intended for the vast audience of American physicians, any disapproval of the *Practitioner and News* should have been left to be expressed through its columns. But when the great powers incident to the high office are utilized in suggesting a boycott on account of a respectful difference of opinion, I should feel that I had done less than my duty if I should fail to enter a respectful protest. In the present sad juncture of affairs there are quarters where suggestions or propositions of boycotting would not occasion surprise; but I feel doubly safe in saying that the membership of the American Medical Association cannot fail to regard a suggestion, from any source, for it to join in a boycotting enterprise as not respectful to its sense of honor, and inconsistent with the dignity of its high character, and not to be for one moment entertained." We cannot believe that Dr. Brodie meant all that his words implied, but his expression was certainly unwise and injudicious.

Reviews and Notices.

LOCAL ANÆSTHESIA IN GENERAL MEDICINE AND SURGERY. Being the Practical Application of the Author's Recent Discoveries. By J. LEONARD CORNING, M.D., formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane; Member of the Medical Society of the County of New York; Fellow of the New York Academy of Medicine, etc. New York: D. Appleton & Co. 1886.

IN this brochure the author describes his method of producing local anæsthesia by means of hypodermic injections of cocaine combined with arrest of the circulation in the part, and demonstrates its applicability to many of the larger operations. A considerable portion of the monograph has already appeared, in papers, in THE MEDICAL RECORD and *The New York Medical Journal*. It is an interesting and instructive work. Numerous illustrations serve to elucidate the text.

VON ZIEMSSEN'S HANDBOOK OF GENERAL THERAPEUTICS. In seven volumes. Volume I.: Introduction; The Dietary of the Sick; The Koumiss Cure. Volume II.: Antipyretic and Antiphlogistic Methods of Treatment; Epidermic, Endermic, and Hypodermic Administration of Medicines. Volume III.: Respiratory Therapeutics. New York: Wm. Wood & Co. 1885.

THE great success achieved by the series of volumes known as Ziemssen's "Cyclopædia" has quite naturally led to the present undertaking. It aims to give a full account of the entire subject of general therapeutics. The text is supplied from the pens of the most eminent German authorities in the various departments of medical practice. A work of this magnitude (seven octavo volumes), dealing with so many subjects of universal interest to the profession, has not hitherto been essayed in any country. It is a matter of congratulation for English readers that the several treatises comprising the entire series are made accessible to them so soon after their appearance in the original. This is clearly an instance in which the publishers deserve unstinted praise for the quick appreciation of what would prove most acceptable to a large contingent of the entire profession.

Having said so much in a general way, it must suffice to indicate the special nature of this handbook by a cursory glance at the contents of the three volumes that are already before us.

In the first of the series Professor Bauer deals in a thorough and comprehensive manner with the highly important subject of dietetics. An excellent account is given of the general dietary of the sick, and this is supplemented by an adequate description of dietetic methods of treatment, such as grape, milk, and whey cures. In an appendix Dr. Stange discusses the various koumiss cures in all their practical bearings on diseased states.

The second volume begins with antipyretic methods of treatment, which are fully and ably explained by Professor Liebermeister. Dr. Jürgensen takes up the discussion of antiphlogistics, blood-letting, and transfusion, while to Eulenburg have been assigned the subjects of epidermic, endermic, and hypodermic medication. These three authors are well known to the profession of both hemispheres, and their articles are complete, reliable, and fully abreast of modern views concerning the subjects dealt with. It is deserving of notice, also, that the translation has been so well done that there are no unpleasant hitches in the reading of these monographs.

Volume III. largely exceeds in bulk the first two of the series, numbering no less than 768 pages, which are entirely devoted to the intricate subject of respiratory therapeutics. The author is Professor Oertel, of Munich, and as the translator, Dr. Yeo, has well expressed it, a conspicuous merit of the German savant's work lies in the fact that he endeavors to supply "a rational and scientific as well as an empirical basis for all the methods he recommends."

If the high standard of excellence achieved by the volumes hitherto issued is maintained, the eminent success of the "Handbook of General Therapeutics" is assured.

GUIDE TO THE EXAMINATION OF URINE, with Special Reference to the Diseases of the Urinary Apparatus. By K. B. HOFFMAN, Professor at the University of Graz, and R. ULTZMANN, Docent at the University of Vienna. Second Edition. Translated and Edited by F. FORCHHEIMER, M.D., Professor of Physiology at the Medical College of Ohio, Cincinnati. With Illustrations. Cincinnati; Woodruff, Cox & Co. 1886.

THIS is a very practical and useful little work, which everyone called upon to make urinary examinations will find of great service. The authors go most thoroughly into the subject, much more fully, indeed, than most writers of similar guides, but the mass of instruction contained in the book is made readily accessible by means of the excellent index compiled by the translator. The value of the American edition is enhanced by numerous fairly well executed illustrations.

CONTRIBUTIONS TO THE TOPOGRAPHICAL AND SECTIONAL ANATOMY OF THE FEMALE PELVIS. By D. BERRY HART, M.D., F.R.C.P.E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Edinburgh and London: W. & A. K. Johnston. 1885.

DR. BERRY HART deserves great credit for the industry with which he has devoted himself to the task of elucidating some of the obscure points connected with the normal and pathological relations of the female pelvis. The present work consists of twelve beautifully executed plates, drawn from frozen sections of well-formed cadavers. All those interested in the anatomy of the female human pelvis will welcome this collection of faithful representations of undistorted parts. The brief text accompanying the plates is explanatory rather than controversial, although a number of mooted points are brought up by Dr. Hart, and treated in a spirit of fair criticism.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 28, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

PREGNANCY COMPLICATED WITH UTERINE FIBROIDS—RETENTION OF URINE AND PYO-NEPHROSIS.

DR. C. C. LEE presented a specimen, removed from a married woman, thirty-seven years of age, who was admitted to his service in the Woman's Hospital on March 16th, with the following history: She had been married two years, had never borne children, but had had a miscarriage eight months previous to her admission, at about the second month of utero-gestation; the cause of the miscarriage was not known. When admitted she had been ill for two months, complaining chiefly of retention of urine, with great dysuria, œdema of the lower extremities, and slight shortness of breath. It was supposed by her physician that she had an ovarian tumor. On examination it was found that she was pregnant, and had the following peculiar condition of the bladder: this organ was drawn up under the abdominal walls above the umbilicus, and was enormously distended with urine. On passing the catheter, between eighty and ninety ounces of urine were withdrawn, and the tumor subsided. After this had been done it was very easy to recognize the presence of uterine fibroids. The pregnancy was estimated to be between the third and fourth month. The uterus was displaced backward into the cavity of the sacrum, and the retroversion was so fixed that all efforts to replace the uterus were ineffectual. The fibroids were three in number, and their outlines could be distinctly made out. It was quite evident that the retention of urine had been due to the rapidly increasing size of the fibroids, and that one of them had pushed the lower third of the bladder against the pubis in such a way as to partially close the exit for the urine. When the urine was examined it was found to be alkaline, with a specific gravity of 1.012, slightly purulent, quite albuminous, and after the lapse of a few days it exhibited hyaline casts. The diagnosis was pregnancy, complicated with fibromata, which had produced retention of urine by pressure on the lower part of the bladder, and probably secondary pyo-nephrosis. The cervix, however, had been crowded up so far that it was almost impossible to reach it, and was above the arch of the pubis, so that the question of the induction of premature labor was decided in the negative. The patient developed pneumonia on the tenth day after admission, and died with high temperature and the symptoms resulting from that disease. Whether the pneumonia was due to septicæmia or some casual reason was not easy to determine, and it was believed to be possible that the patient lost her life because premature labor was not induced. Miscarriage did not occur.

At the autopsy the lower and middle lobes of the right lung were found in a condition of partial resolution, with a large quantity of serum in the pleural cavity of that side. The heart was flabby, but not otherwise diseased. In the abdomen the three fibroids presented themselves with the bladder drawn up over them to a great extent, and the largest of the three had caught the lower portion of the bladder against the pubis; the fibromatous mass had also pressed the uterus into the cavity of the sacrum, thus giving an additional reason for the immovable retroversion. The uterus contained the fœtus, and presented no peculiarities. The ureters were dilated, slightly inflamed, and both kidneys had undergone extensive and rapid degeneration, so that only a small amount of kidney-tissue remained. The pyo-nephrosis was evidently of rapid development, and due to the retention of urine caused by pressure upon the lower portion of the bladder by the fibroids.

Dr. Lee thought it was probably an error that premature labor was not in some way produced, although the condition of the parts was such as to render it almost impossible.

HEGAR'S OPERATION.

Dr. Lee also presented the ovaries and tubes removed by Hegar's operation, for the relief of an intractable submucous uterine fibroid, sessile in character, and occupying the entire fundus of the organ. The patient was a young woman who, besides the loss of blood which the fibroid had caused, had suffered terrible pain, and had had two or three attacks of pelvic peritonitis. After due consideration it was decided to force the menopause by removal of the ovaries, and Dr. Lee was influenced somewhat in making this decision by the fact that he had already reported two cases where he had attempted to remove the fibroid by means of the serrated spoon, and with disastrous results, and also the fact that the patient had been ineffectually treated by injections of ergot. Dr. Lee found it exceedingly difficult in this case to remove the tubes and ovaries, on account of the very extensive adhesions. The patient, however, had done well, and was convalescent, the operation having been performed about ten days ago.

EXPLORATIVE LAPAROTOMY—DOUBLE PAPILLOMA OF THE OVARIES.

Dr. Lee, on Saturday last, had occasion to perform explorative laparotomy in a case which was supposed to be one of multiple uterine fibromata. The patient was twenty-seven years of age, single, and for two years had been suffering constant pelvic pain, which was increased with menstruation. A pelvic tumor had been recognized by two consulting physicians. At the first examination Dr. Lee concurred in this opinion, but on account of the severity of the pelvic pain he afterward concluded that it would be best to give the patient the advantage of the explorative incision. When he had opened the abdomen, he found that there had been a mistake in diagnosis by himself and the other physicians, and that there was a double ovarian tumor. The error in diagnosis was apparently due to the fact that the sac was of unusual thickness, and gave no distinct sense of fluctuation, but rather an elastic feel which resembled fluctuation, and was regarded as indicative of a soft fibromata. The peculiar feel was such that Dr. Lee thought it was altogether probable he would be likely to make the same mistake again. He exhibited the specimen for the purpose of enforcing the view that where the surgeon was in doubt in such cases, the explorative incision was the proper procedure to be adopted. He had not seen any fatal results from the operation, and it enabled the surgeon to be sure of the nature of the trouble within the abdomen. The uterus in this case was normal, but there was a double ovarian tumor of a true papillomatous character, the inner surface showing distinctly the papillomatous growth, and each cyst was filled with a thick and gelatinous fluid. At the present date, five days after the operation, the patient was doing well.

DR. BOLDT asked how long the retention of urine lasted in Dr. Lee's first case.

DR. LEE said that the retention was not at any time complete, but that it lasted for a month previous to admission, and the patient was in the hospital a month.

DR. BOLDT remarked that retention with retroversion was very likely to be accompanied by cystitis, and in the cases reported it had always been in such a degree as to be serious, the cystitis being primary and the condition of the kidney secondary, and all the cases had terminated fatally if the displacement could not be reduced.

DR. WALDSTEIN asked Dr. Lee if it was not possible that in his second case the menopause might not be established, as had been observed by Hegar himself, so that the result of the operation might be negative.

DR. LEE said it was quite possible that this might oc-

cur, but such a result was probably a rare exception and not the rule. Often, however, where the menopause does not occur, the flux of blood which the uterus receives is much lessened by the operation, provided such an amount of peritonitis is not produced as to obstruct the pelvic circulation.

Dr. Waldstein said that he simply put the question because the operation seemed to him to be a severe one for the patient who gave the symptoms of fibroid of the uterus. The condition of the ovaries seemed to be the result of the examination made at the laparotomy.

Dr. Lee said the condition of the ovaries was only recognized after the explorative incision had been made, but the fibroid was of such a character that it could not be removed by the more usual methods.

Dr. George F. Shrady presented a specimen which he had received from Dr. Hays, of North Carolina, who removed it at autopsy from the body of a white man of middle age who died of typhoid fever in Charleston Hospital in 1883. It was a part of the outer surface of the spleen removed from near the hilus, and consisted of either ossific or calcareous matter, and in order that its exact nature might be determined it was referred to the Committee on Microscopy. [The Committee reported subsequently that the substance was calcified connective tissue, resulting from chronic perisplenitis.]

FREE BODIES WITHIN THE SAC OF A HYDROCELE.

Dr. Waldstein presented a specimen which Dr. Lange had given him for examination. The case was one of varicocele occurring in a patient twenty-one years of age. After excising the same Dr. Lange found that there was a small hydrocele, which he incised and removed from the sac small free bodies which, on examination, proved to be of a fibrous character with calcification. Dr. Waldstein had examined the literature of the subject somewhat, and had found that Virchow had mentioned these bodies as originating in a pure orchitis proliferans, and that excrescences, fibrous in nature, generally from the albuginea, became calcified and were freed, and then were found loose in the sac. Sometimes they also originated from the hydatid of Morgagni, but such was not the origin of the specimens presented.

ANGIOMA CAVERNOSA.

Dr. Waldstein also presented a specimen removed from the outer side of the left leg of a girl five years of age. It was located very near the outer condyle; it was painful, and so impeded the action of the leg, and affected the flexion of the knee-joint that her gait was from the hip. The question arose whether or not the tumor could be removed. During the last two and a half years it had not perceptibly grown. Dr. H. B. Sands performed the operation, which was entirely successful. It could not be determined positively whether the tumor was connected with the articulation, or was within the skin, or was subcutaneous, or was adherent to the bone, or within the muscle. Dr. Waldstein was inclined to the opinion that it was situated within the muscle, and in this view he was sustained by Dr. Sands. On making an incision over the growth it was found that the skin and subcutaneous tissue were not involved. Dr. Sands then cut into the muscle and found within the belly of it a tumor which was enveloped by a fibrous capsule, and from which it could be easily enucleated, except at the lower extremity at the termination of the muscle, where it was so firmly attached that it was necessary to cut it away with the knife. The muscular tissue in the neighborhood of the growth had visibly degenerated, and on section through the tumor it was found that it contained some adipose tissue, but a great deal of blood. On microscopical examination it was found to be a specimen of angioma cavernosa; that is, containing a large number of newly formed and forming blood-vessels with caverna filled with blood.

Dr. Waldstein presented the specimen because of the locality in which it was found. It was an intra-muscular angioma cavernosa, and he had been unable to find any record of a similar case.

The President said that he had a specimen almost identical in history and location with the one presented by Dr. Waldstein, but which was removed from the vastus internus muscle. The patient came into his service, and it was noticed that there had been an incision made over the tumor. While he was operating a physician present remarked that there was a scar over the tumor when the operation was commenced, and he said that he saw the same patient under an operation, and the hæmorrhage was so frightful that the operator ceased at once and closed the wound. Dr. Wyeth operated by the aid of an Esmarch bandage, and no hæmorrhage whatever occurred.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 20, 1886.

Abraham Jacobi, M.D., President, in the Chair.

Dr. C. R. Agnew read a report from the Board of Trustees, including a memorandum from the executors of the late Dr. Edward L. Beadle, stating that the Academy would, in a few days, come into possession of the five thousand dollars left it by the provisions of his will.

The President said this was the second bequest which the Academy had received within a short time, the other being the library of the late Dr. Austin Flint. The Academy was thankful for these gifts; they helped toward making it the centre of scientific labor of the profession at large, which it was destined to become. There were good reasons to believe that further donations would soon be received.

MEMORIAL REMARKS ON GASPAR GRISWOLD, M.D., M.R.C.S.

Dr. E. G. Janeway spoke of Dr. Griswold as an earnest, faithful, hopeful physician and student. He was a clear writer and a good speaker; he was able to present his thoughts in a manner to charm his audience, and as he had entered upon the labors of a medical teacher he gave promise of an exceptionably successful career.

THE DIAGNOSIS OF DISEASES OF THE HEART.

Dr. Janeway then read a paper on the above subject. It was not intended to be exhaustive; he wished simply to present certain exceptional points, in the diagnosis of cardiac disease, which had come under his observation. He would not speak of the sphygmograph.

First, with regard to the position of the heart. There were different causes for altered position of this organ which might cause difficulty in diagnosis, but the majority were sufficiently well known. There was one cause of which he would speak from clinical and cadaveric examination, namely, a lowered position of the heart and of the apex beat, owing to a long first portion of the arch of the aorta.

The pushing forward and upward of the heart in spinal curvature he had known in several instances to lead to a belief in the existence of an aneurism.

The nipple was often taken as a guide to the position of the apex of the heart in man. The examination of a large number of persons had led him to believe that this was an uncertain landmark; the intercostal spaces and the centre of the sternum were much more reliable points.

Inspection and palpation could often be relied upon to a considerable extent as affording points for diagnosis, but the writer had often been struck with the absence of perceptible cardiac impulse in hospital inmates, and also in persons in presumable good health. Sometimes, also, the cardiac impulse was not evident on palpation. This

could not be taken as indicating more than a slight lack of force in action.

Some physicians were inclined to attribute the cardiac thrill to a single condition, but Dr. Janeway thought the conditions under which it was present were variable. It was generally true that the thrill accompanying aortic and pulmonary obstruction was perceptible at the base of the heart over the respective arteries—that of the pulmonary on the left, of the aorta on the right of the sternum, but by this sign alone one would not be justified in making a diagnosis. It was true that the time of the thrill would help somewhat, but to exclude an aneurism would sometimes require a very careful examination. He had not infrequently been able to predict mitral stenosis simply by palpation over the heart, and find his prediction confirmed not only by further physical examination but by autopsy.

Mapping out the area of the heart was, as a rule, not difficult; but Dr. Janeway had been much struck by the devices which some physicians had thought it necessary to resort to to do this. A simple means would enable one to use the ordinary Cammann stethoscope, namely, let the patient hold the stethoscope to his chest-wall, which would leave the examiner's hands free for auscultatory percussion.

Students were apt to condemn a heart over which a murmur was heard, and to consider a heart normal over which no murmur was audible; he had also known of some expert examiners being misled in the same direction. They were most likely to pronounce a heart normal over which no murmur was heard. Before pronouncing a heart normal it was important not only to consider the nature of the heart-sounds, but also what effect the cause producing the murmur was having upon the heart. A difference of opinion was likely to arise, when a murmur existed over the cardiac area, as to its exact significance. There were other sources for murmurs heard over or near the heart which were of decided importance to the patient, so far as diagnosis was concerned, such as respiratory murmurs, etc.

To distinguish between the murmurs produced in the aorta and at the aortic valves was not always easy. Sometimes an aneurism, a projecting thrombus on the aortic valves, a chronic endarteritis would be found to produce either a systolic, a diastolic, or a presystolic murmur; or there might be a conjoint cause in the aorta and the valves for the murmur. The murmur of aortic regurgitation might be propagated to the apex, and if the leakage was free it might be mistaken for a presystolic, mitral, or a mitral regurgitant murmur.

With reference to mitral stenosis, in the majority of cases, when the valves were capable of vibrating, there existed a characteristic presystolic murmur, but from this decided indication of this form of disease there were divergences which might progress to that point where altogether, or at times, no typical murmur existed. The author further spoke of the difficulty which sometimes existed of diagnosticating tricuspid regurgitation, owing to the presence of a mitral systolic murmur or other conditions. The loudness or softness of murmurs was not, as was generally well known, an index of the amount or gravity of the disease inducing the murmur. A thrombus at the apex of the left ventricle, or in the left auricle, might exist without a murmur, and it might be of considerable size. So also a small, bead-like vegetation might be present on the auricular aspect of the mitral valve without a murmur. The presence of a tendinous cord in the left ventricle was not rare, and he related one case in which it was the only apparent cause of a murmur during the patient's life. The author also spoke of the significance of exceptional signs in certain cases, with pulsation of the liver, fatty degeneration of the heart, acute cardiac dilatation, ulcerative endocarditis, malignant growths, and syphilis.

Dr. E. D. Hudson, Jr., thought the profession would derive great benefit from Dr. Janeway's paper, especially as no one in this country had had a better opportunity for observing a large number of cases of cardiac disease, and of following them up by an autopsy. He would not attempt to take up all the different points brought out in the paper. With regard to the location of the apex, in health it was usually under the fifth or sixth interspace or intervening rib. If it were not found in this locality, the presumption was in favor of dilatation or hypertrophy. But an altered position of the heart might exist, which would be followed by a change in the line of conduction of a cardiac murmur if one existed. For instance, a student found a murmur conducted from the base downward in the usual line in which pulmonary regurgitant murmurs were conducted, and he made a diagnosis accordingly. Dr. Hudson called his attention to the fact that, judging from the relative number of cases of the two forms of murmur, the presumption would be altogether in favor of an aortic regurgitant, and on examination he found such to be the true nature of the case, the change in position bringing the line of conduction of the murmur in correspondence with that of pulmonary regurgitation.

In forming a conclusion as to the importance of mitral murmurs, both systolic and presystolic, Dr. Hudson thought it very important to consider the composite nature of the first sound of the heart. He recognized the fact that in many instances we could make an immediate and final diagnosis of a murmur at the apex, and determine at once whether it was a mitral regurgitant or a murmur due to mitral stenosis. But he had so often found a murmur which possessed all the characteristics of an organic murmur at the mitral valve, and at a subsequent examination found it absent, that he thought it wise if the physician postponed a final diagnosis to a future examination. At one time, owing to the influence of prominent teachers, he did not believe in the so-called presystolic murmur, but he had long since become converted to the fact of its existence. He was, however, very sceptical as to the frequency of the mitral presystolic murmur. Believing in the composite nature of the first sound of the heart, he was convinced that a great many murmurs simulated the true mitral systolic, and it would often be found that rest and measures for restoring the general health would cause their disappearance. He had come to regard as fallacious the teaching of so many authors that the transmission of the systolic mitral murmur took place through the solid structures around to the back; he thought it took place through the auriculo-ventricular opening and posterior wall of the auricle, and thence to the back.

Dr. H. N. Heineman regarded the paper as a valuable one, especially for reference in cases of cardiac disease presenting unusual symptoms and in which the diagnosis was difficult. It was important, before arriving at a diagnosis of any given case of supposed heart trouble, to take into consideration not any one sign alone, but all that might be present; we should consider the apex-beat, the size of the heart, the murmur, the impulse in the neck, the pulse, the clinical history. With regard to thrill, he had found, after observation of many cases, that it bore no relation at all to the intensity of the murmur.

Mitral stenosis was sometimes accompanied by a thrill, but this was not to be relied upon as a diagnostic sign. It might be associated with aortic stenosis, and in some cases be carried to the apex. In the latter event one would not be able to say whether it was connected with aortic stenosis or mitral insufficiency. Thrill was an uncertain element in diagnosis. If all the other elements pointed to a particular diagnosis thrill might help some. Given, a loud murmur at the aortic orifice and one at the mitral orifice, and you were satisfied that there was a lesion at both of these orifices, it would be impossible to say at the first examination whether two or three murmurs were present. Again, if there were three murmurs, two at the aortic orifice and one at the mitral, or the reverse, he maintained that it would be impossible at the

first examination to say what was the condition of the mitral orifice and what that of the aortic. Again, there might be a loud, prolonged mitral regurgitant murmur, and the examiner would be unable at the patient's first visit to say whether there was mitral insufficiency alone, or whether there was not also some degree of mitral stenosis.

DR. A. L. LOOMIS had been greatly interested in the clinical and pathological experience which Dr. Janeway had related. He had given his experience upon certain points which one who studied cardiac diseases carefully would often find it difficult to decide upon. The author of the paper had first directed attention to cardiac displacement, and had spoken of a displacement due to an elongation of the aorta. Dr. Loomis once had occasion to examine a large number of healthy persons, and he came to the conclusion then that the region of the apex-beat varied in different persons more than was generally supposed. Displacement below the so-called normal point of apex-beat was most common. If now he should find the apex below its normal limit, there being the normal area of diffusion and intensity, etc., he would not for a moment suppose that it indicated cardiac disease.

The author had also called our attention to cases of feeble apex-beat in persons who had occupied the recumbent position for a considerable time. When Dr. Loomis had found this condition he had questioned in his mind whether there had not been some interference with cardiac nutrition. One who had studied cardiac diseases soon came to the conclusion that it was not the murmurs nor the changes in position of the heart which were of so much importance, but rather the integrity of the cardiac walls and of the cardiac rhythm. A mitral regurgitant murmur, for instance, might exist for years, and be a matter of little importance. But when in connection with this murmur, or any other cardiac murmur, there came a change in the walls of the heart permitting, under high blood-pressure, of a change in the cardiac rhythm, it was a matter of much significance.

With regard to thrill, that, connected with mitral obstruction, was familiar to all, for it was almost always present. But, as Dr. Janeway had said, it was by no means the only thrill. He had come to believe that the thrill heard over the base of the heart, or at the apex, was due as much to dilatation of the auricular cavity, on the one hand, or of the ventricular cavity, on the other, combined with a general condition of anæmia, as to valvular changes. And it was important to notice whether, if there were a distinct thrill and no cardiac murmurs, there was a trembling impulse, though it might be only slight.

The differential diagnosis between a presystolic mitral murmur and an aortic regurgitant was an old question. When he commenced to study cardiac diseases under Dr. Cammann, he was taught that a murmur at the apex preceding the first sound of the heart was an aortic regurgitant, due to blood running down on the posterior wall of the heart. Shortly afterward, however, he met with a case of presystolic murmur, and examined the patient many times. She died of pneumonia, and at the autopsy he found stenosis of the mitral valve, there being only a button-hole slit. Since that time he had never questioned the existence of a presystolic mitral murmur, nor had he had any doubt as to the anatomical conditions which produced it. Nor had he regarded it of specially serious import unless it were developed from an endocarditis. A large number of the murmurs were congenital. He had seen this illustrated in three members of the same family. Such patients suffered only after violent exercise or pulmonary congestion. He thought these murmurs could be distinguished by their characters.

As to pulsation of the liver, it was not infrequent in connection with cardiac hypertrophy, but Dr. Loomis had never seen expansive pulsation of the liver except when there was sufficient tricuspid insufficiency to produce a pulsation in the jugular vein.

Dr. Loomis dwelt upon the importance of not laying too much stress upon the presence of cardiac murmurs. He was convinced that they might be absent, or their presence be not recognized in a person who, after some sudden exertion or blood strain, got up cardiac dilatation, and then the murmurs might appear.

Dr. Loomis asked Dr. Janeway, who had referred to ulcerative endocarditis, whether he regarded it as an infectious or a non-infectious disease; whether primary or secondary?

DR. JANEWAY replied that there were some cases of undoubted secondary ulcerative endocarditis. Others, so far as could be determined, were primary, there being no other lesion to which it could be traced. There were other cases in which we might be left in doubt as to whether the other lesions coexistent with the ulcerative endocarditis preceded it or were secondary to it.

THE PRESIDENT asked whether a murmur was to be considered as always present in ulcerative endocarditis.

DR. JANEWAY replied that it might not be present.

THE PRESIDENT said he anticipated such would be the reply, for he was quite sure he had seen a case of ulcerative endocarditis in which there was no murmur. Perhaps it was because the vegetations were so near the base of the valve that they produced no vibration.

DR. JANEWAY remarked that he had seen many vegetations in cases in which there was no murmur, and the absence of murmur was due to cardiac weakness. As to the diagnosis of mitral stenosis, it was sometimes difficult to distinguish between this condition and simply a prolonged first sound of the heart.

The Academy then adjourned.

Correspondence.

OUR PARIS LETTER.

MORE ABOUT PASTEUR'S METHODS.

PARIS, May 21, 1886.

IT has been objected that submitting the rabid spinal cords to the influence of dry air has the effect of gradually lessening their virulence, and finally entirely destroying it. M. Pasteur has ascertained by experiment that this is not the case. Experiments made on rabbits proved that the cords prepared in dry air were poorer in quantity of virus, but not in quality. He further ascertained that the rabid virus was composed of two distinct substances: one, living, capable of developing in the nervous system; another, deprived of vitality, but, if present in a sufficiently large proportion, capable of arresting the development of the former. Although a great deal has been already written concerning the manner in which M. Pasteur inoculates human subjects for hydrophobia, yet a short account of them here may be acceptable to your readers. Patients who come from all parts of the world, and who are generally of the lower classes, reside in small hotels and lodging-houses in the neighborhood of the École Normale, in the Rue d'Ulm, where M. Pasteur's laboratory is situated.

When the patients arrive at the laboratory for inoculation, they are received either by M. Pasteur or by one of his assistants, and their names and addresses are taken. A certificate from a veterinary surgeon or medical man is required, stating that the dog was mad. Their wounds are examined; if they have not been bitten on the face or hands, and their clothes be not lacerated by the animal's teeth, so that the virus has not passed into the wounds, they are sent away. In some cases, however, a certificate is not produced and the dog has been lost sight of; to these M. Pasteur gives the benefit of the doubt and inoculates them, his argument being that it is only humane to place these people beyond danger, especially as it is highly probable that the dog which inflicted the bite was mad. The inoculations are performed each day

from 11 A.M., and last about an hour or more, according to the number of cases, the average being from eighty to one hundred in that time. M. Pasteur calls in the patients one by one, according to the series previously arranged. Series No. 1 is that which has to be inoculated for the first time, No. 2 for the second, and so on. The accommodation for these inoculations is very limited—a waiting-room and an inoculating-room; the former is so small that a number of the patients are obliged to wait outside. Even the inoculating-room is crowded, not only with patients, but with a number of medical men and others who come to witness the proceedings.

At one end of the inoculating-room is a table on which are placed different glasses, covered with a piece of gutta-percha sheeting, which contain the different solutions of virus in sterilized broth. The inoculations are performed by Dr. Grancher, who has two assistants; one fills and hands him the syringe, the other helps the patient. When an entire series is assembled Dr. Grancher performs the inoculations one day in the right hypochondriac region, another in the left, and so on alternately. This precaution is observed to prevent irritation or inflammation consequent on the introduction of the virus. To avoid the trouble of undressing the patients lift their shirts from over the side, thus exposing the part to be inoculated. The inoculator seizes the skin, lifts it up, plunges the needle of the syringe deeply into the areolar tissue, and presses the piston down to the end. The dose for adults is a Pravay's syringeful (about a cubic centimetre) of the virulent mixture; for children the syringe about half or three fourths full, according to their age. The first inoculation is made with virus that has been kept in broth for fourteen days, the second inoculation with virus of thirteen days, and so on, until at the end of ten days a virus of five days' attenuation is used. This completes the ten inoculations which are supposed to be sufficient to preserve the patient from hydrophobia; that is to say, that which is caused by the bite of a dog.

In cases of bites by rabid wolves M. Pasteur repeats the series of ten inoculations three times over. In a room close to the inoculating-room, a surgeon (M. Terrillon) dresses the wounds resulting from the bites. When the wounds are of so serious a nature that the sufferers are obliged to be treated at a hospital or in their own lodgings, M. Pasteur, or one of his assistants, goes to make the inoculations. The rabbits intended as subjects for the inoculations are kept in wire cages, some to be inoculated, others which have already been operated upon; of these three or four die daily. The mode of death in the rabbit is quite different from that of man—they die of paralysis, without a struggle; in some very rare instances, however, they die of symptoms resembling those observed in the human being. Two dead rabbits are taken daily to the laboratory. The spinal marrow is taken out and cut into pieces about four inches long; one end is attached to a piece of fine wire, the other end of the wire being fixed to a stopper, and placed in a glass bottle prepared for the purpose. The preparation of the bottle consists in heating it to about 150° C., cotton wool being placed in the mouth and at another opening at the bottom of the bottle. A thick layer of caustic potash is placed at the bottom of the bottle. A few hours after the piece of spinal marrow has been fixed in the bottle it acquires a glazed appearance, as if it had been varnished. A small fragment of this is put in sterilized broth and kept there for fourteen days; this then serves for the first inoculation, as mentioned above.

The operation of inoculating the rabbits is done in the following manner, which I here describe even at the risk of repeating what may have been before given. A healthy rabbit is placed on a board lying on its abdomen; its hind legs are fastened to two lateral pegs, and the same is done to the forepaws. The hair is cut off its head to the extent of about half-a-crown. Chloroform is administered to the animal until it becomes quite insensible. A clean incision is then made lengthwise with a sharp bistoury previously dipped in a solution of carbolic acid. The lips of the wound are kept apart by an eye dilator, any blood is mopped up with fine blotting-paper also dipped in a solution of carbolic acid, and a revolving trephine is placed perpendicularly on the bone; in a few turns a small disk of bone, of about the size of a threepenny piece, is cut through, and extracted with a curved needle, also disinfected. The dura mater is thus exposed. A fine Pravay needle is then inserted under the membrane, and two or three drops of a strong solution of the virus are injected. The dilator is removed, the skin sewed up, the ligatures which fasten the legs are removed, and the rabbit is replaced in his cage. On the seventh day the rabbit begins to feel the effects of the inoculation, and dies invariably on the tenth day. Two rabbits are thus inoculated every day, and two die every day, so that a supply of virus is kept up for inoculating rabbits and patients. The inoculations in the human subject are sometimes followed by a slight œdematous redness, but no evil results have as yet been noticed.

Whatever may be thought of M. Pasteur's anti-rabic inoculations, I shall conclude this letter with his last report to the Academies of Sciences and of Medicine. "The number of persons inoculated for hydrophobia was, on April 4th last (the date of the report), 950. Of this number 912 were bitten by mad dogs, and 33 by wolves, the latter being all Russians. The patients of the first category, with the exception of the little girl Pelletier, who, it will be remembered, died after a few inoculations, are all doing well. More than half of that number have passed the dangerous period. Since I began these inoculations I have learned that the mortality caused by the bite of rabid wolves was very considerable. Very frequently this mortality is 100 per cent., and the duration of the incubation is always very short, being sometimes only thirteen or fifteen days. Very frequently also this duration does not exceed eighteen to twenty days, the bite of the dog being rarely of such short duration. Six deaths have occurred among those who have been inoculated, without including the little girl referred to above. The six cases were Russians, five of whom were men bitten by wolves, and the other a woman bitten by a mad dog, all of whom died of hydrophobia, and in whom also the wounds were of a very grave nature. These statistics present a great deception to hostile persons, such, for instance, as the anti-vaccinators. This is my profound conviction, and I believe that there can be no possible doubt regarding the method, as the persons adverse to it cannot contest the results which I have indicated, any more than the experiments which repose on the *ensemble* of these results."

There is no doubt that there is, and will for some time be, a good deal of scepticism as to the efficacy of this new method; in the meantime M. Pasteur, who is looked upon as one of the greatest benefactors of the age, is being loaded with honors, and money is flowing in from all parts of the globe for the establishment of the Pasteur Institute. The last list of the subscriptions, which has just appeared in the *Journal Officiel*, shows a total of 711,813 francs. I may here mention that among the latest donors was Mr. Morosini, of New York, who, you are aware, brought his daughter over to Paris to undergo M. Pasteur's treatment for the bite of a mad dog. He subscribed $1,000 toward the institute, as M. Pasteur accepts no fees, and he presented Dr. Grancher, M. Pasteur's inoculator, with a handsome piece of silver plate. Miss Morosini is, I am glad to say, doing well, and has suffered no inconvenience from the inoculations.

THE INJURIOUSNESS OF NATURAL GAS AS A FUEL.

To the Editor of The Medical Record.

Sir: I have noticed several articles in the newspapers, and a short one in The Medical Record for April 3d, relating to the "Injuriousness of Natural Gas as a Fuel,"

especially as irritating the respiratory organs. I live in a portion of country entirely supplied with natural gas. Everybody burns it. The houses are lit with it. Within a radius of one mile I can count two hundred oil-wells, all producing large quantities of gas. We consider ourselves quite free from respiratory and pulmonary diseases. It is the prevailing opinion among the laity here that gas is of considerable therapeutic value in lung troubles. At all events, there is no evidence that gas, diluted with air, is injurious to the lungs. I have conversed with a number of physicians in Bradford and other parts of McKeon County, and all, as far as my investigations are concerned, agree in considering natural gas non-injurious to the lungs. If pneumonia recently occurred in a town in this State, near Pittsburg, about the time natural gas was introduced as fuel, it was a coincident, and no fault of the gas. I have burned it, and live in a country where the air is, to a certain extent, impregnated with it, and have, for nearly ten years, and know whereof I speak.

Yours very truly,
H. A. CANFIELD, M.D.

GILMOR, PA., April 6, 1886.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 23 to May 29, 1886.

SMITH, ANDREW K., Lieutenant-Colonel and Surgeon, WOODHULL, ALFRED A., Major and Surgeon, and KIMBALL, JAS. P., Captain and Assistant Surgeon. Detailed as board to assemble at U. S. Military Academy, West Point, N. Y., on June 1, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. S. O. 119, May 21, 1886.

HARTSUFF, ALBERT, Major and Surgeon. Detailed as member of a board appointed to meet at U. S. Military Academy, West Point, N. Y., on June 1 and August 25, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. S. O. 121, A. G. O., May 25, 1886.

Par. 7, S. O. 120, A. G. O., May 24th, revokes so much of par. 12, S. O. 119, A. G. O., May 21st, as details Surgeon Alfred A. Woodhull as member of medical examining board to meet at West Point, N. Y., June 1, 1886.

WINNE, C. K., Captain and Assistant Surgeon. Granted leave of absence for twenty days on surgeon's certificate of disability. S. O. 34, Department of California, May 17, 1886.

KILBOURNE, HENRY S., Captain and Assistant Surgeon. Assigned to duty at Vancouver Barracks, Washington Ter. S. O. 80, Department of Columbia, May 15, 1886.

APPEL, A. H., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Indian Ter. S. O. 52, Department of Missouri, May 24, 1886.

BENHAM, R. B., Captain and Assistant Surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 56, Department of the Platte, May 24, 1886.

JOHNSON, R. W., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Adams, R. I. S. O. 45, Division of the Atlantic, May 25, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 29, 1886.

DICKSON, S. H., Passed Assistant Surgeon. Detached from the Naval Academy and to the Constellation.

SIMON, W. J., Surgeon. Detached from the Naval Academy and to the Constellation.

KIDDER, B. H., Surgeon. Detached from the Powhatan and to the Tennessee.

RHOADES, A. C., Surgeon. Detached from the Tennessee, proceed home and wait orders.

CERDEIRO, F. J. B., Assistant Surgeon. Detached from the Powhatan, proceed home and wait orders.

CLARK, J. H., Surgeon. Ordered for examination preliminary to promotion.

HUGG, JOSEPH, Surgeon. Detached from the Minnesota and granted sick leave.

BEAUMONT, H. N., Surgeon. Ordered to the Receiving Ship Minnesota.

LAW, H. L., Surgeon. Detached from the Wabash and granted sick leave.

HENRY, CHAS. P., Assistant Surgeon. Ordered to the Receiving Ship New Hampshire.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 29, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
May 29, 1886.....	4	8	33	2	53	83	1	0
Deaths.								
May 29, 1886.....	0	3	7	2	6	38	1	0

THE HAPPY MEDIUM IN MEDICATION.—Dr. S. C. Dumm, of Columbus, says: "In THE MEDICAL RECORD of May 15, 1886, there occurs this sentence, said to be from the lips of the late lamented Austin Flint, 'that fame would attend that author who would write a work on the non-medicinal treatment of diseases.' Also that a Canadian author said he believed 'that the erection and endowment of a thoroughly equipped hospital where medicinal treatment should never be used, unless an occasional anæsthetic, would be of the greatest possible benefit to mankind and to the science of medicine.' The regular medical profession are, we are sorry to say, as prone to run to extremes now as formerly. There was a time when the great Rush bled for all kinds of disease, the weak and the strong, without regard to effects, and thus brought discredit on a no doubt efficient remedy in many diseases. The prejudice engendered by this indiscriminate use of a powerful method of treating inflammatory diseases has not been removed, and the practitioner who would venture his reputation on an occasional case where needed, should he be so unfortunate as to lose his case, would not soon recover from the influence. The preparations of mercury, by the way, the most useful of remedies, was brought into discredit in the same way. The profession ran headlong into an excessive use of this most potent remedy, and had it not been for its wonderful efficiency in syphilitic diseases it would have been consigned to the same grave as that of bleeding. There is too much of a tendency to ignore drug treatment, hence homœopathy and tomfoolery flourishes, and it will do so as long as men run to extremes in that way. Why is it, we ask in all candor, if diseases will get well without medicines, that when the sugar doctor finds that he can't get through with his remedies he resorts to those of the regular practitioner? The only benefit we can see that could be derived from a hospital in which medicines are withheld, is that a line could be drawn between those cases which need medi-

cines and those who would probably get well in time without them. But, while this process of experimentation was going on it would be a curse to those who imperatively needed medicines. There is no use for physicians to try to ignore the use and need of drugs when every day they prescribe and see their great benefit, and we assert here, with due respect for our great men, that they will not practise what they preach, and we don't believe that in a sober second thought they would recommend the disuse of drugs. We don't believe in the indiscriminate use of drugs, but we do believe that there is a great midground on which physicians should stand, withholding where not needed and prescribing where needed. If physicians to prescribe drugs as well as hygienic measures are not needed, then why not do away with the title of M.D., and let the hygienists run the thing?"

THE PURE AND THE IMPURE.—Dr. Walter F. Morgan, of Leavenworth, Kan., writes: "For the past three years I have been a constant reader of your journal, and have admired its tone upon the Code question and its method of treating the moral aspect of medical subjects. I have often told my medical friends that it was—all things considered—the best medical journal I ever had the good fortune to see, and this was said in all sincerity. Either THE RECORD must retrograde, or *I* must retrograde, to prevent our being companions to the end of life's journey. With these views, perhaps, you will not be surprised that I ask the privilege of protesting against some things in the article upon 'Gonorrhœa' in your issue of the 8th ult., and I would do so in the name of your own scathing editorials, which have often consumed sexual filth in the fires of pure reason, common sense, and the highest physiological knowledge. Every healthy, honest man may admit, with Ben Franklin, that 'the sexual passion is hard to control.' So much the more does it seem to be his duty and honor to see that he *does* control it, and it is plainly the highest duty of the physician to preach the truth to those who have not yet learned this lesson, viz., that no man, under any circumstances, or form of treatment, can escape punishment, be it more or less, who uses his sexual organs for any but their legitimate purpose—the procreation of his kind. For, as Emerson says, 'A man may boast that he has learned how to evade nature's laws, but the brag is on his lips—the conditions are in his soul.' Hence, is it not evident that when a physician takes pains to speak of his gonorrhœal patient as his 'friend,' and of the wretched woman as bestowing her '*favors*' on several of his patients, and of his delightful, euthanasic methods of prompt relief, it is only the song of the siren, leading his deluded victims on to their destruction? The doctrine taught by some respected specialists, viz., that a 'moderate use of the sexual organs is essential to health,' has ruined many young men and will ruin many more, and women too—in accordance with the law of supply and demand. The true principle of evolution shows that so far as men apply those scientific and rational rules of generation to themselves which they do to domestic animals, the parent is able to beget offspring somewhat better than himself, and hence the gradual improvement of the race and more frequent realization of the great desideratum, 'A sound mind in a sound body.' It seems to me that when a physician forgets that his chiefest and highest functions are to prevent disease and to teach the beautiful and beneficent laws of nature, he then also forgets the best interests of both himself and his profession, even though he cures his patient, as he is bound to do, by the most skilful methods at his command."

WIRING THE PATELLA.—Dr. Robert T. Morris, of this city, writes: "In THE MEDICAL RECORD of July 18, 1885, was published a description of the operation of wiring the patella, and three cases were described in detail. One of the patients, Mr. G. G——, was shown to have had a poor result because of the stiffness of the knee, which persisted in spite of treatment. Last week the patient came to my office to say that he could easily bend his knee to a right angle, and that his only discomfort was due to the presence of the wires beneath the skin, which prevented him from kneeling, and which made him cautious about striking the knee against any solid body. I could feel the two little knobs of wire beneath the skin, and shall ask the patient to let me remove them later. Two years and a half have elapsed since the operation, and the patient says that his knee remained quite stiff until four or five months ago, when it rapidly began to 'limber.' At present flexion to a right angle can be made without pain. Treatment had not been employed since the date of my former report. There is evidently bony union between the fragments."

DR. DAWSON ON INFANT FOOD.—Dr. B. F. Dawson, of this city, writes: "In the report of the discussion of Dr. F. A. Burrall's paper, in transactions of the Academy of Medicine, published in THE MEDICAL RECORD, pages 509–510, I am quoted as saying a little less than I actually did, and in consequence my remarks, as printed, somewhat misrepresent my opinions as expressed at the meeting. The second paragraph of my remarks should read as follows: 'Cow's milk was all that was necessary, with something added to prevent the coagulation of the casein into hard, large lumps, as barley or oatmeal water; if anything more was to be added it should not be water, but fat—for example, cream, or when there was more or less constipation a piece of pure fresh butter as large as the kernel of a hazel-nut at each meal. He said that if an infant could only be looked upon as an animal, whose mother, in order to provide for herself, must leave it alone without food for more or less time, all those who had to do with the rearing of children would get along much better than they did.'"

THE SANTA LUCIA ASYLUM FOR THE BLIND.—We have received the report of this institution, which is not only an asylum for the blind, but also a hospital for the treatment of diseases of the eyes. The director is Dr. Santiago de los Albitos, of Madrid. The number of patients treated in the institution during the year 1885 was 1,616, and there were 198 operations performed.

DR. EDOUARD FOURNIER, editor of the *Revue Médicale*, of Paris, has recently died. He was physician to the Institute for Deaf-Mutes, and was well known as a specialist in the treatment of diseases of the larynx. He was one of the strongest and most able opponents of the bacteriological school, and loved to be styled a follower of traditional medicine.

SPANISH SOCIETY OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.—An association has recently been formed in Barcelona, having for its object the promotion of studies and original work in the branches of medicine mentioned in its title. The first annual meeting will be held in Barcelona from the 24th to the 29th of May. The committee on organization consists of Drs. Luis Suñé, Pedro Verdós, and Agustin Basols, of Barcelona; Rafael Ariza, of Madrid, and Ramon de la Sota, of Seville. There will be both foreign and Spanish members, each enjoying equal privileges. The initiation fee is placed at 15 pesetas ($3), and the annual dues at $2, or 10 pesetas.

A CASE OF HERMAPHRODISM is reported by Dr. Salin in *Hygiea* for March, 1886. The individual had been brought up as a girl, and when first seen, at the age of twenty-three years, by the author, was dressed as a woman, and was so regarded by the family. The patient sought advice because of amenorrhœa, and an examination of the genital organs showed complete hypospadias. The penis was small, and the testes were situated one on each side of this organ. The breasts were undeveloped, the voice was that of a man, and there was a sufficiently strong beard to require daily shaving.

SOME FALLACIES IN REGARD TO DIET.—1. That there is any nutriment in beef-tea made from extracts. There is none whatever. 2. That gelatine is nutritious. It will not keep a cat alive. Beef-tea and gelatine, however, possess a certain reparative power, we know not what. 3. That an egg is equal to a pound of meat, and that every sick person can eat them. Many, especially those of nervous or bilious temperament, cannot eat them; and to such, eggs are injurious. 4. That because milk is an important article of food, it must be forced upon a patient. Food that a person cannot endure will not cure. 5. That arrow-root is nutritious. It is simply starch and water, useful as a restorative, quickly prepared. 6. That cheese is injurious in all cases. It is, as a rule, contra-indicated, being usually indigestible; but it is concentrated nutriment, and a waste-repairer, and often craved. 7. That the cravings of a patient are whims, and should be denied. The stomach often needs, craves for, and digests articles not laid down in any dietary. Such are, for example, fruit, pickles, jams, cake, ham, or bacon, with fat, cheese, butter, and milk. 8. That an inflexible diet may be marked out, which shall apply to every case. Choice of a given list of articles allowable in a given case must be decided by the opinion of the stomach. The stomach is right, and theory wrong, and the judgment admits no appeal. A diet which would keep a healthy man healthy might kill a sick man; and a diet sufficient to sustain a sick man would not keep a well man alive. Increased quantity of food, especially of liquids, does not mean increased nutriment; rather decrease, since the digestion is overtaxed and weakened. Strive to give the food in as concentrated a form as possible. Consult the patient's stomach in preference to his cravings; and if the stomach rejects a certain article, do not force it.—*Technics.*

A SELF-PERFORMED LAPAROTOMY.—Dr. B. Raniero, in a letter to the *Raccoglitose Medico* for April 10, 1886, reports the case of a woman, twenty-five years of age, who was pregnant, and desired to conceal the fact. Not being able to rid herself of the child, in a fit of desperation she seized a bread-knife and made a deep incision, five inches long, on the right side of the abdomen, and extracted through the opening thus made a full-term fœtus. The child was dead, the knife having severed its head from the body. The woman bound up the abdomen with a cloth, and then walked two miles to the village of Viterbo, remaining there five hours, and returning again to her home, which she reached seven hours after the infliction of the wound. The pain then became so severe that she fainted, and upon returning to consciousness vomiting occurred. The wound was opened and the greater part of the small intestines were protruded. Medical aid was then sought for the first time; the intestines were returned, the wound closed by sutures, and the patient recovered without any untoward symptoms.

A LITERARY EFFORT.—A Cincinnati physician returned a death certificate to the authorities, giving the cause of death as follows: "She dide with Liver dease & New Monei."

A CAUSE OF INEBRIETY IN SWITZERLAND.—In a recent discussion at the Geneva Medical Society, Dr. Lombard stated that one of the most potent causes of inebriety in Switzerland was the scarcity of milk. There was no dearth of cows, but so much condensed milk, not to speak of other lacteal preparations, was made and exported, that fresh milk was a rare and costly article. Its place was largely taken by alcoholic fluids. Even children were given bread soaked in brandy.

ABDOMINAL DULNESS VARYING WITH POSITION.—In an article in *La Riforma Medica*, Nos. 76, 77, and 78, 1886, Professor G. B. Queirolo writes that he was led to make a diagnosis of ascites, and to tap the abdomen, by reason of the presence of dulness or percussion, the level of which varied according to the position of the patient. He found no fluid present. In pursuing his researches further in order to discover a cause for his error, he found that this sign is normally present in healthy persons, though, perhaps, not to so marked a degree as in the case of intra-abdominal effusions. It also differs from the dulness caused by fluid within the peritoneal cavity, in that it varies from day to day, being now greater in extent and again less. This physiological dulness, as he terms it, is caused, he thinks, by the gravitation of the fluid contents of the small intestines to the lowest point in the abdominal cavity.

THE TREATMENT OF SINGULTUS.—Dr. Robert B. Wilson, of 529 Lexington Avenue, writes: "I wish to say one word in regard to the treatment of that simple but sometimes very obstinate complaint, singultus. I have tried a remedy which works wonders, at least in simple cases, though I have never had the opportunity of trying it on cases of several days' standing. The remedy, also, is so simple that I suppose it is not new, yet *I* have never seen it recommended for the complaint, although it is very probable that it has been. It consists simply in giving the patient a good pinch or two of 'catarrh snuff' to produce immoderate sneezing. I have seen the happiest results from it in hiccough of as much as two days' persistence. A simple 'catarrh snuff' for the purpose may be made by mixing one part of powdered veratrum album with about four parts of pulverized licorice-root. Of course it may fail in very stubborn cases, but it never has thus far with me."

CONTAGION OF TUBERCULOSIS.—At a recent meeting of the Société Médicale des Hôpitaux, M. Vallien read a report on the contagious properties of tuberculosis. The Society sent a list of questions to 10,000 medical men, and received 173 answers. Those who answered were classified as follows: 57 believed in contagion, 57 disbelieved in it, 7 gave doubtful replies, and 2 were incomprehensible. Of 439 cases forwarded, 213 suppported the hypothesis of contagion, and 226 were against the theory. The 213 cases favorable to the theory were as follows: 107 were husbands and wives, 71 near relations, 18 the offspring of phthisical parents, and 16 were distant relations. In one instance the disease was said to have been transmitted from a master to his dog. Heredity is an important factor in the propagation of tubercle. Tuberculosis is, the report states, more frequently inherited from the mother than from the father. Inherited tuberculosis is manifested sooner than when contracted from proximity with the contagious principle. It is difficult to ascertain what is the exact proportion of cases due to contagion. It is roughly estimated to be one in ten among the well-fed classes; among the poor classes it is much greater. Data are at hand which indicate that phthisis has been imported into isolated localities and islands by inhabitants from neighboring countries where the disease existed.

WRITERS' CRAMP AND FRACTURE OF THE CLAVICLE.—"At a recent meeting of the London Clinical Society a unique case was described by Mr. Arthur Barker. The patient was a boy, aged twelve, in whom fracture of the clavicle had occurred before birth, and had remained ununited. A false joint formed, and there was free movement and no inconvenience till about three years ago, when the patient began to suffer from pain down the right arm, and a sense of weight in it. Symptoms resembling those of 'writers' cramp' then came on. In August last Mr. Barker resected (antiseptically) the false joint, wired the cut surfaces together, and put up the shoulder and arm in a plaster-of-Paris jacket. The wound healed in a fortnight without any suppuration. In another fortnight the corset was removed, the scar being sound, and the bone firmly united with callus. Shortly after, he was given some writing to do, and the former symptoms were found to have disappeared."

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 24 NEW YORK, JUNE 12, 1886 Whole No. 814

Original Articles.

THE IMMEDIATE CLOSURE AND RAPID CURE OF FISTULA-IN-ANO.[1]

By STEPHEN SMITH, M.D.,

SURGEON TO BELLEVUE AND ST. VINCENT'S HOSPITALS; PROFESSOR OF CLINICAL SURGERY UNIVERSITY MEDICAL COLLEGE, NEW YORK.

THE possibility of a prompt cure of fistula-in-ano is a great advance in the treatment of this hitherto troublesome affection. Every surgeon must have met with cases which resisted the old method, and failed altogether to heal. And even when those having a large abscess cavity finally healed after free incision, there was often a deep cicatrix, which was a source of constant irritation from the tendency to the accumulation of filth in the deep sulcus. Occasionally there was a certain troublesome defect in the action of the sphincter, which remained as a permanent disability. In these latter days of rapid improvement in the methods of operations, it has naturally occurred to many surgeons that fistula-in-ano might be treated successfully by the immediate closure of the wound, provided the track and abscess cavity were properly prepared, and then sutures were employed so as thoroughly to approximate the surfaces. It has been performed successfully in this country by Drs. Emmet, Weir, Lange, and Chamberlain, of this city, by Dr. Jenks, of Chicago, and by several surgeons abroad. In most instances these surgeons have operated without any previous knowledge of the work of other operators. The simplicity and the success of the operation warrant the effort to give it greater prominence than it has yet received.

Attempts have been made, heretofore, to cure fistula-in-ano by incision of the track, followed by the dissection of the lining membrane, but with indifferent success. It is only when the surfaces are quite firmly brought together and maintained in apposition, that union takes place with any greater certainty and rapidity than by the former method. My attention was first directed to this method of operating on the appearance of the first edition of Dr. Emmet's work, in 1879. I was impressed, while reading that work, with the explanations of the method of closing a lacerated perineum involving the sphincter ani, and with the accompanying illustrations. I had at that time under observation a case of fistula-in-ano, which had been laid open freely six months before, but had failed of union. The line of incision was slightly to the left of the median line, but the depth of the wound and its large granulating surfaces reminded me of some of the condi tions of a lacerated perineum of long standing.

The suggestion that this wound, involving the sphincter, was amenable to a somewhat similar method of treatment was very natural. The result proved the truth of the suggestion. It was not difficult to dissect away the granulating surface, and to accurately close the wound with sutures not unlike those used for the lacerated perineum. Union promptly occurred. Since that time I have operated on a number of cases of fistula, including every variety of form, and nearly every condition of patient, with a degree of success which commends the procedure to my confidence.

The principles which should be borne in mind in the operation are: 1, complete removal of the lining membrane of the fistula and of the abscess cavity which may exist; 2, accurate and permanent adjustment of the opposing surfaces; 3, thorough antiseptic treatment of the wound.

The details of the operation are simple, but they must vary somewhat according to the peculiarities of each case. After considerable experience, I have adopted the following general plan: The patient is prepared for the operation by taking an ounce of castor-oil for two succeeding days before the operation, omitting the last day, on which he takes an opiate at bedtime. The diet should be milk. It is intended to keep the bowels quiet for four to six days after the operation. The patient being anæsthetized, the parts about the anus are thoroughly washed with soap and water, then carefully shaved, and finally irrigated with bichloride solution. This douche is also thrown into the rectum and the index-finger is introduced and swept around the folds of the rectum, in order that the mucous membrane may be relieved of any matters lodged in that region. A clean sponge, wrung out of the bichloride solution and having a string attached, is next introduced into the rectum to prevent any matter from the bowel escaping and soiling the wound. The patient is placed on the back or side on which the fistula opens. If the fistulous passage is direct it is incised in the usual manner. If there is an abscess cavity this is opened to the full extent, in order to give free access to the lining membrane. The lining membrane, or so-called pyongenic membrane, is then carefully dissected away, throughout both the cavity and the fistula. The rapid and permanent healing of the wound depends largely upon the thoroughness with which this tissue is removed. It is generally very dense, and can only be completely dissected off with a sharp scalpel or scissors cutting well at the point. In some of my early operations I resorted to the curette, and endeavored to destroy the membrane sufficiently to secure union, but the operations were unsatisfactory till I removed it with the knife or scissors. When it is completely removed, the ragged, or thin and purple, margins of the wound are cut away so as to have clean and healthy surfaces for apposition and union. There is in some cases considerable hemorrhage from small arteries, which must all be ligated before the wound is closed. The first step in the closing of the fistula and abscess is to secure perfect apposition of the margins of the wound within the rectum. To effect this object an assistant should introduce an index-finger well into the rectum, and then, bending it as a hook, extrude the bowel, which is readily effected. The whole track of the fistula is thus brought into view, and the surgeon has full control of the wound. To obtain prompt union it is necessary to evert the edges of the mucous membrane, and bring the deeper cut surfaces into contact. The success of the operation depends upon securing complete and firm closure of that portion of the fistula which involves the mucous membrane. The first sutures, therefore, should be so applied as to bring the deep surfaces together and evert the margins of the mucous membrane. To effect this object I take a large-sized carbolized silk ligature, or catgut prepared with chromic acid, and attach a needle having a slightly curved point to each end. These materials are preferred because they will not yield as does the ordinary catgut, and allow the margins to separate before union takes place. One needle is now passed just above the highest point of the incision, and from a fourth to half an inch from the margins of the wound,

[1] Read at a meeting of the Section on Surgery, Academy of Medicine.

and the thread is drawn through to its centre. The needles are then passed in opposite directions at intervals of about half an inch, in the same manner as the saddler takes his double stitch when two pieces of leather are held in a vice and united. If the fistula is simple and there is no abscess cavity, the stitches are continued to the external extremity of the incision, making a continuous suture on each side of the wound. They are now tightened sufficiently to bring the two surfaces into apposition and slightly evert the margins of the mucous membrane, but without any strain. The ends of the ligature are then given to an assistant, who by moderate traction draws the entire fistulous track outside. The margins of the wound are now nicely adjusted with a continuous suture commencing at the upper extremity of the wound. At the external extremity of the wound a drainage-tube is inserted. When the margins of the wound are closed the ends of the suture are tied. The operation is completed by passing two or three large carbolized silk ligatures entirely under the fistula, and tying them over an iodoform gauze pad rolled firmly and laid along the wound. The object of these last ligatures is to bring the deep portion of the fistula in suitable apposition. During the operation irrigation with the bichloride solution is continued, and idioform gauze is applied as an external dressing. The sponge is finally withdrawn from the rectum, and a suppository of opium inserted. The diet should be milk, and opium should be continued daily for from four to six days to keep the bowels quiet. The patient should remain in bed, and at first should remain recumbent, with the limb straight. In some cases I have applied a binder about the hips to prevent movements, where the patients were inclined to be restless.

If there is a large abscess cavity and, as often occurs, irregular, as in the horse-shoe fistula, I have always entered the cavity at the external opening, then laid it open freely throughout its entire extent, and finally have opened the internal fistulous passage at the point where the cavity communicated with the interior of the bowel. Such an abscess presents a large, irregular, deep cavity, having an opening into the bowel sometimes on the side opposite the point where the cavity opens externally. These cases require much care, for the cavity to be closed is enormous, but they may be perfectly healed by one operation, if great pains are taken to dissect out all the false membrane, and to adjust the sutures so as to bring the surfaces into apposition. The internal fistulous track is closed by the same suture as the simple fistula. The abscess cavity may be closed by one of two methods: 1. The same double, continuous saddler's suture may be employed, but it should be taken farther from the external margin of the wound, in order to bring as much strain as possible on the deep parts of the wound. Upon the inside, along the margin of the anus, it is well to enter the suture close to the border of the mucous membrane. This suture is continued to the external extremity of the wound. The continuous suture is then applied to the wound, and the same dressings applied. It sometimes happens that, even in the horse-shoe fistula, when the suture is finished, two or three sutures, either large thread or wire, inclosing the entire cavity, may be passed completely around it, thus aiding in approximating the deep surfaces. 2. The second method is by interrupted sutures passed the same as the suture in the lacerated perineum, that is, completely around the cavity. This suture is more difficult to employ than the former, but it is more successful. With this suture I have found no difficulty in closing at one operation an old rectal abcess of large size, which had no communication with the rectum.

In simple fistula having no cavity between the external and internal opening, I have found it possible to save incision of the sphincter by incising the sinus to the sphincter, dissecting away the false membrane up to the internal opening, and then by means of the double suture to bring the raw surfaces together. The suture is to be applied within the anus, the parts being partially extruded by the finger of an assistant hooked within the anus. The same result has been obtained by Dr. Emmet, and I believe by others. In two cases the internal opening was more than two inches above the anus, one indeed being three inches. In both cases the sinus was incised to its fullest extent, and the same form of suture employed with the best results. In my first operations I employed the single-valve speculum, but I found it by no means as useful as the finger of an assistant. When the internal opening is high up, with strong loops of ligature thread inserted into the margins of the wound at the anus, the whole track can be readily drawn down within reach of the operator.

The conclusion which I have reached from my own experience is that fistula-in-ano and old rectal abscess cavities, whether communicating with the bowel or not, can be cured by removal of the lining membrane and the application of a proper suture, in a period varying from eight to fourteen days.

I may add that I have found deep fissures of the anus readily cured by excision of the track with its cicatricial lining, and accurate closure with carbolized silk ligature, the parts being first carefully shaved and cleansed with bichloride solution, and the wound dressed with iodoform gauze.

THE FUTURE INFLUENCE OF SURGERY UPON OBSTETRICAL ART.[1]

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To those of us who practise obstetrics and gynecology —to those, even, who feel but a languid or a theoretical interest in these branches of medicine—nothing is more impressive than the rapid inroads of surgery into a domain heretofore deemed strictly medical.

Is this just or natural? Is it true, as has lately been said by a famous Scotch surgeon—himself among the most illustrious exponents of abdominal surgery now living—that "the restless surgery of to-day will let nothing alone; it has no patience, . . . and would attack all and sundry in some way or other, till one almost begins to think that individual responsibility has become old-fashioned and gone out of date?"

A most distinguished fellow of this Academy, whose counsel has been equally sought in this hall and in many anxious consultations in our practice, is known to deprecate this tendency of the day, and to feel it a mistake that gynecology should invoke the frequent aid of the knife, or obstetrics of the surgeon's scalpel.

I have thought it might be profitable, then, to invite your attention to this notable current of medical thought; and, for a few brief moments, to ask your consideration of so important a subject as the future influence of surgery and surgical resources upon obstetrics.

In the past it must be evident that obstetrics was practised as an art from the earliest ages. Although at first its methods were rude and uncouth, it kept pace with advancing civilization; and the history of every nation of Europe and of the East teems with evidence of this fact.

Thus, while Herodotus records the rough usages that surrounded the parturient woman among the Scythians and the nomadic tribes that were the forerunners of the Persian Empire, Egypt, which was then the fountain whence the arts and civilization overflowed the ancient world, possessed a cultivated medical body familiar with ordinary obstetrical measures, and even with the speculum and other supposed inventions of modern gynecology.

From Egypt the knowledge of medicine in general, and of obstetrics, passed to Greece and Rome; and

[1] Read before the New York Academy of Medicine, June 3, 1886.

Hippocrates, who was a contemporary of Herodotus, has left in his "Aphorisms" many obstetrical suggestions which, for better or worse, profoundly influenced this branch of practice for more than a thousand years.

At this early date, and for centuries later, obstetrics and surgery were practised in common, but by degrees the former gradually passed into the hands of women.

In most serious complications, however, the surgeon was still consulted; and his functions extended from the performance of cephalic version to that of the Cæsarean section, which, in spite of many recent denials, was certainly known to the ancients; and, at least as a post-mortem expedient, was occasionally attempted.

As time passed, and as pure surgery extended its sphere in other directions, obstetrics became gradually a distinct specialty; its practice was again resumed by men all over Europe; and, during the last century, what had been a slowly maturing art was raised to the dignity of science, chiefly through the labors of Levret in France, and of Smellie and William Hunter in Great Britain.

The reproach and contumely that had hitherto attached to the "man midwife" was now rapidly swept away; and the purely obstetric practitioner occupied as honorable a position as any of his competitors.

Nevertheless, in cases of extreme or seemingly insuperable difficulty the surgeon's aid was still sought as a last resort; and before considering what may be the future outcome of this influence, it will be well to review briefly what has already been accomplished.

I begin with the Cæsarean section, to which reference has already been made.

The early accounts of this heroic measure are confused and no doubt unreliable, resting as they do only upon common tradition and the assertion of such writers as Pliny, whose veracity is never above suspicion.

The first unquestioned case of Cæsarean section was that of Trautmann, of Wittenberg, who operated in April, 1610, and whose patient lived nearly four weeks; although fifty years before this Ambroise Paré (1509–1590) and his pupil, Jacques Guillemeau (1550–1612), had described it—the latter specifying five fatal cases as the basis of his condemnation.

Dr. Harris, of Philadelphia, who is not only the greatest medical statistician this country has produced, but *par excellence* our authority upon this subject, believes it was accomplished more than a hundred years before Trautmann's case, by Jakob Nufer, of Siegenhausen, in Germany, who operated successfully in "or about 1500."

The indications for its performance may briefly be said to be excessive pelvic contraction, and insuperable obstruction by cancerous degeneration of the cervix or encroachment upon the lower pelvis by solid tumors.

If the mother be moribund, or just dead, and the child be known to be living, it may become advisable to effect in this manner the rapid extraction of the child.

The risk entailed may be inferred from the fact that in this country the general mortality of Cæsarean section has been sixty per cent., and in Great Britain eighty-one per cent. (Harris).

In fatal cases the causes of death are, first and chiefly, *delay*, with the shock and exhaustion entailed by it; second, peritonitis; third, septicæmia; fourth and very rarely, hemorrhage.

The customary method of operating comprises these four stages as tabulated by Lusk: "1, the incision through the abdominal wall; 2, the incision through the anterior wall of the uterus, and the extraction of the fœtus; 3, the removal of the placenta, the arrest of hemorrhage, and the cleansing of the peritoneal cavity; 4, the closure and dressing of the abdominal wound." All this is done with as complete antiseptic environment as possible, and with the usual assistants and appliances necessary in well-conducted laparotomies. Carbolized Chinese silk sutures, in preference to catgut or silver wire, should be used to close the uterine wound. If the placenta be found attached under this line of incision, which occurs about once in three cases (Stoltz), it must be quickly separated, or pushed aside, or cut through, so as to get rapidly at the child. Spiegelberg ("Handbuch der Geburtshülfe") met with this accident three times, and was finally compelled to cut his way through the placenta to save necessary time. Its risk is the immensely increased hemorrhage to which it gives rise; but as the extraction of the child is the only means of checking this, any process which facilitates that most rapidly is justifiable.

The uterus may also be pressed out through the abdominal wound, which renders manipulation easier and aids in preventing the escape of fluid into the peritoneal cavity.

Should the hemorrhage cease upon extracting the child, it will be best to wait a few moments for firm contractions before removing the placenta.

If this should not yield readily to gentle traction, the fingers should be passed into the cavity and the placental attachments separated.

As soon as the placenta and membranes can thus be extracted, and the remaining clots removed, the uterus contracts, or should be stimulated to do so, a drainage-tube passed down through the cervix and vagina, and the cut edges of the womb sutured with wire or carbolized silk.

The uterus is now replaced; the peritoneal cavity carefully and minutely cleansed; and the abdomen closed as after ovariotomy. If oozing from the uterine incision continues after it is sutured, a separate abdominal drainage-tube must be used. The after-treatment is as for other laparotomies.

Four modifications of this Cæsarean operation have lately been proposed, all of them originating in Germany.

1. Frank, of Cologne (*Centralbl. für Gynäkol.*, December 10, 1881), proposed a plan intended to secure perfect drainage, and to make the operation partly extra-peritoneal.

Thus the uterine incision is made low down anteriorly, and around the bottom of this the round ligaments of the womb are drawn together and secured with carbolized silk sutures, thus shutting off the incision from the peritoneal cavity; and from this blind pouch drainage is secured through the vagina.

In performing this operation, which is done antiseptically, the whole uterus is turned out of the abdominal wound before incising it. When it is emptied, a large drainage-tube is passed from the uterine cavity out through the vagina, and the uterine opening is closed above it with catgut; then the round ligaments are united in front, and a small drainage-tube carried from this pouch or pocket down through the vagina. After the tubes are in position the ligaments are sewed together, and the abdominal wound is closed in the usual way.

In one (fatal) case where this was done the peritoneal cavity was found at the autopsy to be quite free from blood or other fluids.

2. In the *Archiv für Gynäkologie*, bd. xix., 1882, Dr. Kehrer, of Heidelberg, proposed a plan, which Harris[1] says is not new (Dr. Wallace Johnson having suggested it one hundred years ago), of opening the uterus *transversely* in its lower third anteriorly, partly to avoid the placenta, which is rarely, if ever, implanted at this point, and partly to prevent the gaping of the uterine wound. The extraction is effected as usual; and in closing the wound he uses two sets of sutures—a deep and a superficial row. All antiseptic precautions are observed.

This he has twice done, once successfully; and, in the one fatal case, the uterine wound was found adherent wherever he had covered it with peritoneum.

3. Sänger, of Leipsic, proposed in 1881 (*Archiv für Gynäkol.*, bd. xix., tt. 3, 1882) another modification, which, as far as I can learn, has been performed eight

[1] Ashhurst's Internatl. Encycl. of Surgery, vi., 767.

times in Germany, with the result of saving six women and eight children. When the abdomen is opened as usual, two strong loops of suture are passed through the edges of the wound at the upper end. Then the membranes are ruptured per vaginam, the uterus is pushed out through the abdominal wound and held vertically, while a carbolized rubber sheeting is adjusted around the cervix to prevent fluid from entering the abdominal cavity. The suture loops are now drawn tight, the uterus is opened longitudinally in front and its contents rapidly removed, while an elastic ligature (of tubing) is tightened around the cervix and the broad ligaments are temporarily clamped. Hemorrhage along the line of the wound is arrested by compression forceps. As the uterus contracts, a drainage-tube is passed from its cavity through the vagina, the peritoneum is dissected back from the cut edges, and a wedge-shaped strip of uterine tissue is pared off the edges of the incision. The free edges of the peritoneum are now turned in, and the uterine wound closed by deep sutures which include the peritoneal and muscular coats, but not the endometrium. Superficial stitches of catgut are added, so as to secure a perfect welt. The abdominal wound is dressed as usual.

Professor Leopold, of Dresden, has done this seven times; five times with, and twice without, the strip being sliced from the uterine edges; and at the Copenhagen International Congress he said that in future he would omit this as unnecessary.

In this country three fatal cases, I believe by Jewett, Garrigues, and Drysdale of Philadelphia, have been reported—all apparently because of the delay in resorting to it.

4. Cohnstein, of Heidelberg, has proposed (*Centralbl. für Gynäkol.*, bd. xix., tt. 3, S. 397, 1882) a plan which, so far as I know, has never been practised. This is to turn the uterus out of the abdomen, and to open it longitudinally behind instead of in front, and effect drainage through a tube perforating Douglas' pouch. The advantages claimed for this are that more efficient drainage is thus secured than is possible from an anterior opening; that the edges of the uterine wound are steadied by its weight and position; that the greater thickness of the posterior wall will help to prevent gaping of the wound, etc.

But, in spite of all this and much more, the practical difficulty of managing the incision, and the liability of finding the placental attachment there as well as in front, have so far deterred operative surgeons from attempting it; nor is it likely ever to win favor.

In all cases of Cæsarean section, Harris ("International Enclycopædia of Surgery," vi., 770) thinks the most fatal mistake is *delay*, and the chief desideratum for the future is more perfect knowledge of pelvic deformity among practitioners who attend the poor in large cities; if this were recognized early in the case, and an experienced consultant called in, many lives now lost could be saved. To lessen the mortality from this cause, certain substitutes for Cæsarean section have been proposed, of which the chief are:

I. The Porro or Porro-Müller operation, with Veit's modification.

II. Laparo-elytrotomy by Thomas' method.

I. The first of these was devised by Professor Edoardo Porro, of the Maternity Hospital of Milan, formerly of Pavia, who in May, 1876, operated successfully on a rachitic primipara, aged twenty-five. He termed the process "utero-ovarian amputation, as completive of Cæsarean section;" and its special object was the diminution of former mortality "by converting the internal uterine wound, with its tendency to gape and discharge septic matters into the abdominal cavity, into one dressed and discharging *without* the peritoneal cavity" (Harris, loc. cit., p. 770).

Dr. H. R. Storer had done the same thing in 1869, but without premeditation, during an ovariotomy, when the tumor proved an uterine fibro-cyst associated with pregnancy.

And the *idea* had long before been expressed by Cavallini, of Florence, in 1768; by Michaelis, of Marburg, in 1809; by Dr. Blundell, of London, in 1828; and by Fogliata, a veterinary surgeon of Pisa, in 1874.

Whether Porro knew of the earlier suggestions is doubtful; of Fogliata's he was ignorant.

All his predecessors had recommended the *entire* ablation of the womb; he excised it at the cervix, and drew the stump into the abdominal wound.

His method, then, is precisely that of the modern antiseptic Cæsarean section, *plus* hysterectomy at the cervix with external treatment of the pedicle.

After the uterus had been incised and evacuated, it was drawn out of the abdomen and held vertically while the wire loop of Cintrat's constrictor was tightened around the cervix, opposite the internal os, and the uterus cut away above it. The abdominal cavity was then cleansed, and a drainage-tube carried through the abdominal wound, through Douglas' pouch, and out of the vagina. The external wound was closed with silver wire, the stump fixed in its lower angle and rubbed with perchloride of iron. Antiseptic dressings were applied; the wire loop was removed in five days, the woman was well in forty, and the child was saved.

Several modifications of this proceeding have been offered; two only demand notice here.

a. The first, by Professor Müller, of Bern, after eight operations had been done by Porro's method, consisted in turning the pregnant womb out of the abdomen *before* opening it and evacuating its contents. This was to avert the danger of hemorrhage, and the escape of its possibly putrid contents into the peritoneal cavity. Otherwise it is the same as Porro's.

b. The second, by Professor G. Veit, of Bonn, consists in ligating the stump and dropping it back into the peritoneal cavity, or treating it by the *intra-peritoneal* method. This ligation has been done with silk and with silver wire, and with and without peritoneal covering.

Neither of these modifications has been followed by sufficient success to justify the hope that it will supplant the original operation of Porro.

Up to this time Veit's has shown a general mortality of nearly seventy-one and one-half per cent.

Müller's has been entirely unsuccessful in Italy, but less so elsewhere.

Dr. Harris (op. cit., p. 773) says that up to March, 1885, there had been 42 operations by the Müller modification, with 21 mothers and 31 children saved; by the original Porro method 109 operations, saving 46 mothers and 85 children.

These statistics may, of course, soon be modified.

II. Of the second substitute for Cæsarean section, laparo-elytrotomy, it would seem that little need be said in this Academy, which witnessed and welcomed its chief public exposition by its distinguished author. If he had done nothing else in the specialty which he has illuminated with his talent, this alone would entitle him to our lasting gratitude; for such ingenuity, boldness, sound anatomical knowledge, and far-reaching intelligence have rarely been combined in any surgical proposal.

The special object and merit of this proposition are the extra-peritoneal extraction of the child above the pelvic brim, without wounding either the uterus or the peritoneum; and, consequently, without risking the mortality which has hitherto followed those lesions.

As seems curiously true of many other notable discoveries, this had all been discovered before; but neither Ritgen, who first attempted it sixty-five years ago; nor the younger Baudelocque, who, two years later, proposed the same expedient, and actually operated in two cases, which were afterward forgotten; nor Sir Charles Bell, who, thirty years since, theoretically advised the same procedure, can jeopardize the just claim of Thomas to originality. For, while their efforts were either incom-

plete or soon forgotten by even the few whose ear they gained, Dr. Thomas, who was unaware of their labors, had the energy to push his new discovery to a practical conclusion, and to bring it before the profession so forcibly that it has permanently taken its place in obstetric literature.

Needless to describe it in detail to you at this late day, for you are all as familiar with it as I am; and, since the classical essay of Garrigues upon this subject in 1878, it has been incorporated into all recent treatises upon operative midwifery. As to its results, I need only add that Skene and Jewett in Brooklyn, Gillette and Thomas himself in this city, Hinds and Edes in England, have all had successful cases; and, although the number is as yet too small for any final deduction, the proportionate success is for greater than that of either Porro's operation or Cæsarean section.

Has surgery rendered aught of assistance in extra uterine pregnancy? Some of its greatest triumphs have been won in this field, and each year brings gratifying evidence of improvement in the methods and technique of such operations.

In the early months—before the fifth month—of ectopic gestation, electricity, which was first employed by Allen, of Philadelphia, and popularized chiefly by the writings of Thomas and Garrigues, is preferred in this country to the use of the knife.

After that period incision, or excision, should be attempted, either by elytrotomy, laparo-cystotomy, or laparo-cystectomy.

1. In puerperal elytrotomy the upper segment of the vagina is incised so as to reach and remove a fœtus in the lower pelvis. This is generally enclosed within the layers of the broad ligament, and has originally been a tubal pregnancy. The operation is rather difficult and fraught with much risk, especially if an attempt be made to tear away the placenta, when profuse hemorrhage ensues.

It has been done in this country, with varying success, by Dr. John King, of South Carolina, in 1816; by Hayes Agnew and A. H. Smith, of Philadelphia; by Thomas, of New York, and by Dr. Mathiesen, of Ontario, Canada. Thomas advises that the vagina be divided by the galvano-caustic knife, to avoid the danger of hemorrhage.

It is rarely applicable in practice.

2. Puerperal laparo-cystotomy is the process of opening the abdomen and the enveloping cyst for the purpose of extracting the enclosed fœtus. This may be done either to remove a *living* fœtus, or after the fœtus is known to be dead; and the operations are respectively called *primary* and *secondary*.

The procedure is not of modern date, Harris quoting one by Christopher Bain, a German, in 1540; and by Paul Calvo, of France, in 1714. Both of these were *secondary* operations.

Professor R. Werth, of Kiel, tabulated, in 1884, 17 primary operations, with 2 recoveries and 15 deaths.

These two were at the eighth month of gestation, and were done by Jessop, of Leeds, in 1875, and by A. Martin, of Berlin, in 1881. A full report of the details of these remarkable cases will be found in Dr. Harris' erudite article in the "International Encyclopædia of Surgery," vol. vi., p. 783.

The cause of the great mortality in most of these cases was the location of the placenta and the difficulty of dealing with it.

Even an explorative incision, as recommended by Tait, is full of risk, as we may cut into the placenta or fail to find its location until we are compelled to remove the fœtus.

Any one of the three main forms of ectopic gestation—the abdominal, ovarian, or fallopian—may give rise to this indication.

3. Laparo-cystectomy is practically the same as the foregoing, except that the enveloping cyst is removed with the fœtus.

If this can be done at all, it is easier and safer than the preceding measure; because here the placenta is encapsulated with the fœtus, and, in the complete ablation of the sac or cyst, the risk of placental hemorrhage is avoided.

Of *lacerations* of the *cervix* and of the *perineum*, and of their immediate repair, so much has been written that I shall make only the most passing reference to this subject.

I have never been so fortunate as to succeed in closing a lacerated cervix at the time of labor, though I have made a number of efforts in that direction; nor have I known of more than one surgeon who claims to have accomplished this. But, with our constantly improving appliances and resources, that this *will* be accomplished in the early future I firmly believe.

With *lacerations* of the *perineum*, however extensive they be, and whether complete or incomplete, the case is very different. Here the advantages of immediate closure are so immense in saving the unfortunate patient from the discomforts of prolapse, and the greater misery of *procidentia of the womb*, that the obstetrician is derelict in his duty who fails to avert this by immediately repairing the perineal tear if the latter be at all extensive.

Were this systematically done, it is no exaggeration to say that hundreds of young mothers who lead invalid and useless lives at home, or who fill the gynecologist's consulting rooms, would be restored at once to their family duties. So imperative does this duty seem to me that I would as soon think of leaving the placenta undelivered in the uterus as a deeply torn perineum unrepaired.

Much more might be said upon so suggestive a theme, but the proper limits of this paper have already been passed.

Suffice it, then, to say, in conclusion, that if the application of surgical resources to obstetrics in the ten or twenty years just past has been so beneficent, saving, as it has surely saved, the lives of hundreds of women and children who, but for such aid, would long since have been in their graves, we have no cause to fear that the future will be less productive of good. The hand upon the dial of time never moves backward. And so firm is the foothold obstetric surgery has now obtained that one need be no optimist to believe its future outcome will be more brilliant than any of its past achievements.

THE DIAGNOSIS OF ASTIGMATISM WITH THE OPHTHALMOSCOPE.

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The diagnosis and determination of astigmatism with the ophthalmoscope, by the direct method, is not only exceedingly interesting, but somewhat difficult, unless we estimate each meridian of the two principal ones separately, then it should become almost as easy as the diagnosis of simple hypermetropia or myopia, when we have simply an elongation or shortening of the optic axis, except in those few cases in which the refractive power of the dioptric system may be either too strong or too weak.

But if one has mastered the use of the ophthalmoscope in the simple errors of refraction the same rules will hold good in the diagnosis of the curvature of the cornea, which causes astigmatism, only we must now select the two principal meridians of the eye, finding them at right angles to each other. This will give us the direction of the axis of the correcting cylindric glass, and then we can estimate the amount of error of refraction in each meridian, in the same way that we would test the eye for simple hyperopia or myopia.

In determining the simple errors of refraction we take as our standard of comparison the minute vessels of the disk or retina, or, better still, the delicate tapetum formed

by the choroidal epithelium, and then, in hypermetropia, use the strongest convex glass behind the aperture of the ophthalmoscope with which this tapetum can still be distinctly seen, this will give the amount of hypermetropia, while in myopia we would select the weakest concave glass that will render the blurred tapetum distinct, and this glass will give us the amount of myopia.

Now, in astigmatism, we cannot use this delicate test, so we select the edges of the optic nerve entrance, which, passing in a circle, will give us short lines running in any direction, or the minute delicate vessels that you will find in different parts of the retina or on and around the optic disk, while the most delicate test is that of the brilliant white line running along the centre of each artery of the retina. If we take any of these points for observation, and can decide which will focus upon the retina of the observer's eye, these vessels or lines will give us the direction of the meridian of greatest ametropia, provided in all cases that the accommodation of the observer is in a state of complete relaxation.

We will precede the study of the errors of refraction caused by astigmatism by the supposition that very few are able to have such complete control over their accommodation that they can at all times completely relax it, so that the observer's eye when estimating refraction shall be in a state of complete rest. Now this defect will make but slight difference in estimating myopia, as the observer's eye cannot accommodate for convergent rays, but in hypermetropia it must be taken into consideration, although the practical results should be the same. For instance, very few persons that are accustomed to use the ophthalmoscope can so control the accommodation that they can examine the fundus of a hypermetropic eye of + 1 or 2 D. and find the details blurred and indistinct. But making our diagnosis from the fact that we can still see these details clearly, by placing a convex glass behind the aperture, and the strongest convex represents the amount of total hypermetropia, so we must calculate the amount of astigmatism present, if hypermetropic, only using the individual vessels as our guide.

I shall not quote the writings of our many standard authors, as it has seemed to me that nearly all of them dismiss this most important subject, and one that is so necessary to the ophthalmologist, with very few words; even our most illustrious master on refraction, Donders, says almost nothing, while Dr. E. G. Loring, in his excellent work, lately issued, on ophthalmoscopy, devotes hardly five pages to this subject, though his explanations are unquestionably the best and clearest that it has been my pleasure to read.

If we could so control the accommodation that, when using the ophthalmoscope, one eye would be in a state of complete rest, as when under the influence of a strong solution of atropine, then I can understand and appreciate the teaching upon this subject; but if we consider that with a large majority of those who use the ophthalmoscope the accommodation is particularly active when examining a hypermetropic eye, we must then study and calculate the errors of astigmatism in a somewhat different manner.

In teaching the determination of astigmatism we must only consider those rays of light that are reflected by the retina of the observed eye, after proper illumination with the ophthalmoscope. In doing so we must estimate separately the refraction of the two principal meridians at right angles to each other, the direction in which the rays of light of each meridian leave the cornea, and the direction that they will have when they strike the retina of the observer's eye, after they have passed through the dioptric media of both eyes.

This has been beautifully shown by my friend and assistant Dr. W. H. Fox, at our clinics, and at his lectures at the Post-Graduate Medical College. We have used small disks of cardboard to represent the refractive apparatus of the observed and the observer's eye, while small threads of different colors, placed in different planes, represent the rays of light in the two principal meridians..

By this method, if we take the rays of light from any luminous spot in the retina passing through the dioptric media of the observed eye and then through that of the observer, their directions and focal points will be the same as parallel rays of light passing through a spherical and a cylindrical lens combined, so that we will find beyond the refractive media of the observer's eye the two principal focal points, with the focal interval of Sturm between them, that in hypermetropic astigmatism the retina of the observer's eye lies at the anterior focal point, and that in myopic astigmatism the retina of the observer's eye lies at the posterior focal point. Also in compound astigmatism the retina is in front of the anterior focal point in hypermetropia, and is behind the posterior focal point in myopia, while in mixed astigmatism the retina lies between the anterior and posterior focal points.

Now, in all these cases, but particularly that of simple astigmatism, which I shall take as a standard, we will find that the image, as formed upon the retina of the observer's eye, is elongated in the meridian of greatest ametropia, consequently all vessels or lines that pass in the direction of this meridian will be clearly seen, *provided the accommodation is at rest*, because the rays that define the edges of these vessels will pass outward through the emmetropic meridian, and will leave the eye as parallel; while all the rays that pass outward in the meridian of ametropia, when they strike the retina of the observer's eye, will simply overlap, so forming a clear, elongated image, but in hypermetropic astigmatism the student will *almost invariably use his accommodation*, and now he will see the vessels in the emmetrophic meridian, as the rays will focus upon his retina at the *posterior focal point*, exactly at right angles to the vessels parallel to the meridian of ametropia.

By looking at the drawings you will see in Fig. 1 the stand represented. with one set of cardboards and threads in position, showing the direction of rays of light in the vertical meridian, while in Figs. 2 and 3 the cardboards and threads only are represented, but are so made that they can be easily attached to the stand by a slot, and then tightened up by the nuts on the screws at the ends. These figures are reduced about one-sixth the actual size, and this method can be used to illustrate all the varieties of refraction and astigmatism.

Explanation: In Fig. 1, let X, Y, represent the stand, with two uprights, H and I, on each end, through which the screws pass, with a small movable nut on each screw, by which the threads are tightened after the cardboards are in position, then the cardboard at A will represent the retina of the observed eye, and *a* the luminous point, B the refractive apparatus, while C will represent the refractive apparatus of the observer's eye, D the position of the retina, and E the position of the posterior focal point in simple hypermetropic astigmatism. By placing these cardboards in the stand, with the rays of the two principal meridians shown by different colored threads, they can be turned to any meridians in the arc of a circle, though in the drawings they are only shown in the vertical and horizontal; then if you combine Figs. 1 and 2, or Figs. 1 and 3, you will see that in no case can the rays from the luminous point *a* form a point upon the retina of the observed eye, but must be elongated in the direction of curvature different from that of emmetropia.

In Fig. 3, representing the horizontal meridian of an astigmatic eye whose refraction is myopic, we find the rays of light in this meridian or plane to pass outward convergent; consequently, they will cross before they strike the retina of the observer's eye at D, and then form an elongated image; as the rays passing outward in the other principal meridian will be parallel, as shown in Fig. 1, they will exactly focus upon the retina at D, and as these rays in this meridian form the boundary lines of the vessels in the opposite meridian, then in this case the vessels

that pass horizontally will be clearly seen; that being the meridian of greatest ametropia, the axis of the correcting cylindric glass must be placed at right angles to it, or, in other words, at right angles to the vessels that are distinct.

If we now study the direction of the rays passing from a hypermetropic eye, under the same conditions, we shall find that they also form an elongated image upon the observer's retina, in the same meridian of ametropia, but now the image is formed by the rays in the horizontal meridian, reaching the retina at D before they have come to a focus, as shown in Fig. 2, while the rays passing in the vertical plane, Fig. 1, are parallel, and exactly focus upon the retina of the observer's eye.

Vertical Meridian—Emmetropia.

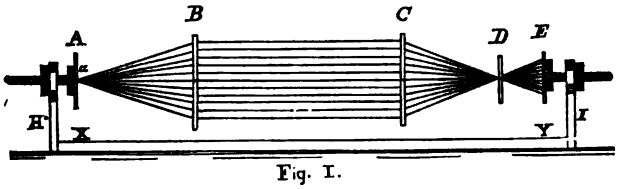

Fig. I.

Horizontal Meridian—Hyperopia.

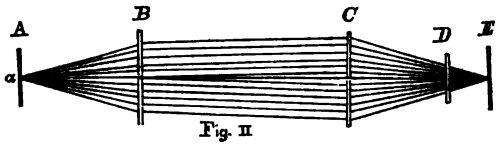

Fig. II

Horizontal Meridian—Myopia.

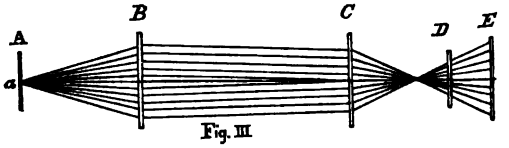

Fig. III

Diagrams of cardboards and threads to show vertical and horizontal planes in simple hypermetropic and myopic astigmatism.

Now, if the observer is able to keep his accommodation *completely relaxed*, this proposition is correct, and he can only see the vessels that pass in the horizontal direction; but as so few of us, particularly those who are learning to estimate refraction, can keep the accommodation at rest when divergent rays pass in the eyes, hence, using the accommodation we will focus all the rays upon the retina, and all the vessels are now clear. If we then place a convex glass behind the aperture of the ophthalmoscope, which takes the place of and relieves the accommodation, we now change the rays of light as if they came from an eye with simple myopic astigmatism, as the convex glass will focus the divergent rays in the horizontal meridian upon the retina, at the same time will bend the parallel rays in the vertical meridian, and they will then focus before they reach the retina of the observer's eye, so that the position of the retina is now changed to the posterior focal point, and the vertical vessels can be seen, most distinct, exactly at right angles to the vessels seen with the accommodation relaxed, consequently the axis of the correcting cylindric glass must be placed *parallel* to the vessels, most distinctly seen in hypermetropic astigmatism when the accommodation or a convex glass is used, and the strongest convex glass, with which these vessels are clear, will represent the amount of ametropia.

These same rules will apply in compound astigmatism, but we must first correct the general refraction in myopia by the weakest concave glass that will make the vessels in any one meridian distinct, and in hypermetropia by the strongest convex glass that will first blur the vessels in any meridian.

We can illustrate these rules by the following cases: In simple myopic astigmatism the vertical vessels are distinctly seen through the aperture of the ophthalmoscope, then with -2 D all the vessels are clearly seen, as the accommodation will correct the divergence of the parallel rays caused by the concave glass, hence the correcting cylindric glass would be -2 D.c, axis 180°, or horizontal.

In simple hypermetropic astigmatism, all the vessels can be seen in every meridian, but if we place a convex glass behind the aperture, as $+2$ D, the vertical vessels can still be distinctly seen, while all the horizontal vessels are blurred, we now find that the correcting cylindric glass will be $+2$ D.c, axis 90°, or vertical, the axis now being parallel to the vessels most distinctly seen.

Let us now take a case of compound myopic astigmatism. All the vessels will appear blurred, and the weakest concave glass that will make the vessels in any meridian clear, say -2 D, will show these vertical vessels; then we have general myopia of -2 D, and the axis of astigmatic glass must be at *right angles* to the vessels; then we will measure the amount of astigmatism by the weakest glass that will make all the vessels clear, as -4 D, and the difference between these two glasses will give the amount of astigmatism. Thus, the proper glass to correct this case would be -2 D.s $\frown$ -2 D.c, axis 180°, or horizontal.

But in a case of compound hypermetropic astigmatism all the vessels can be clearly seen, as the accommodation will be active, and now the strongest convex glass that will first blur the vessels in any meridian, as with $+2$ D the vessels in the horizontal meridian begin to blur, this glass will represent the amount of general hypermetropia, and now the axis of the astigmatic glass must be *parallel* with the vessels that are *still* distinctly seen, then the strongest convex glass that these vessels in the vertical meridian can be seen with, as $+4$ D less the amount of general hypermetropia, will represent the astigmatism. So the correcting glass would be $+2$ D.s $\frown$ $+2$ D.c, axis 90° or vertical.

In mixed astigmatism with the vertical meridian myopic and the horizontal meridian hypermetropic, you will see the disk elongated in the direction of the myopia, or vertically. All the vessels and lines running vertically are distinct, unless all the accommodation is relaxed, when the vessels and all the details of the fundus will be indistinct. But this condition is difficult to accomplish, and so using the accommodation we can see the vertical vessels clearly; then the strongest convex glass through which they can be seen, as $+2$ D, will represent the amount of hypermetropic astigmatism; now place the axis of the correcting glass parallel to these vessels, and we have $+2$ D.c, axis vertical. The hypermetropic astigmatism being in the horizontal meridian. Let us now place the weakest concave glass, behind the aperture, that will render all the details of the fundus clear, as -2 D, and we have the amount of myopia; placing the axis of the cylindric glass at right angles to the vessels first clearly seen, then the correcting concave cylindric glass will be -2 D.c, axis 180°, or horizontal, with the myopic astigmatism in the vertical meridian. So this case of mixed astigmatism will be corrected by $+2$ D.c, axis 90° $\frown$ -2 D.c, axis 180°.

I wish the student to remember that these calculations are only made in this way because most physicians who use the ophthalmoscope are unable to control the action of the accommodation; while if we do have perfect control at all times, then we can only see the vessels distinctly that are parallel to the meridian of greatest ametropia, and consequently the axis of the correcting cylindric glass must be at right angles to that meridian.

I have been led to these conclusions from actual experience in the examination of a large number of cases of astigmatism, without the use of atropine, and have confirmed the diagnosis afterward with atropine and the trial by glasses. Again, so little is written on this interesting subject, while I could give so many examples from my records, while on service at the Manhattan Eye and Ear Hospital, that have been studied and the diagnosis made

by this method; at the same time, I know from personal experience that it was very difficult to so master my own accommodation as to obtain the results given in our text-books. Nor can I speak too highly of the ability to make a correct diagnosis of all the errors of astigmatism, as in many cases it will enable us to decide if it is necessary to continue the examination under the use of atropia, as well as showing the cause of the apparent amblyopia.

I would therefore conclude:

That the direction of the axis of the correcting cylindric glass in myopic astigmatism is at *right angles* to the vessels that are most distinctly seen without a glass.

That the direction of the axis of the correcting cylindric glass in hypermetropic astigmatism is *parallel* to the vessels that are most distinctly seen with a glass.

That the same rules are applicable in compound astigmatism, only we must correct the general error of refraction first, and then the astigmatism.

Lastly, that these rules are presented, from the fact, as I believe, that the largest number of those who use the ophthalmoscope cannot control their accommodation at all times, when divergent rays of light enter the observer's eye.

Progress of Medical Science.

NERVE TERMINATIONS IN THE PEPSIN GLANDS OF THE STOMACH.—Fragments of the stomach, taken from a fasting dog, and treated by bichromate of ammonia in five per cent. solution, show the parietal cells containing, besides the nucleus, from one to five homogeneous granules stained of a yellow color. Langley has described these as pepsinogenous bodies, but Navalishin (*Archives Slaves de Biologie*, No. 1, 1886) regards them as the terminal organs of the nerve-fibres. In a section of the mucous membrane treated by bichromate of ammonia and then by chloride of gold, he has seen a filament passing from a nerve-branch enter the capsule of the gland, penetrate a parietal cell, and terminate in one of these granules in its interior.

HOW THE MUSSEL OPENS ITS SHELL.—Dr. J. Pawlow has been studying the action of the adductor muscles of the valves of the fresh-water mussel (*Anodonta cygnea*), and has obtained results of considerable interest in the physiology of muscles and nerves. The following are the conclusions of his paper: The two adductor muscles receive each two sets of nerve-filaments, one motor and regulating the contraction or shortening of the muscle, the other antagonistic to the first. The latter might be denominated arrestors, since their action is to suspend the contraction of the muscle and induce relaxation in it. These two sets of nerves have, in respect to the adductor muscle, a rôle analogous to that of the vaso-constrictors and vaso-dilators in respect to the muscular coat of the arteries in the higher animals.—*Revue des Sciences Médicales*, April 15, 1886.

ATROPHY OF THE SUPERIOR MAXILLA.—Dr. Dubreuil reports the case of a man, thirty-three years of age, who had begun to lose his teeth about a year previously. There was no pain, and the teeth simply became loose and fell out during mastication or were removed by the fingers. None of the teeth was carious. The molars began to fall out first, and at the end of six months there was not a single tooth in the upper jaw, but throughout there had not been the slightest pain. After the disappearance of the teeth the alveolar border became thinned, ulcers were formed, then hemorrhages followed from the nostrils, and from time to time little pieces of bone, with mucous membrane attached, were removed from the nasal fossæ. There were flying pains at this time in the lower extremities, most marked at night. At the time of the patient's admission to hospital the vault of the palate was of a triangular shape, presenting a cicatricial appearance at the sides, and a fistula communicated on the left side with the nasal fossa. On the right side a small ulceration existed at a point from which a little spiculum of bone had been removed. The patient died with symptoms of cardiac affection. At the autopsy were found ulcerative endocarditis, passive congestions, and general anasarca. The brain was small, the frontal lobes especially appearing to be but little developed. The meninges of the cord, particularly the dura mater, were thickened posteriorly. The medullary lesion was situated in the sinus formed by the separation of the posterior cornua. The sclerosis was diffuse, and was especially marked at the extremity of the right posterior cornu, where the abundant connective-tissue fibres had destroyed the nervous filaments. The changes appeared to be more marked toward the cervical region and to decrease and finally disappear in the dorsal portion of the cord. The bulb, the superior maxillary ganglia, and the nerves themselves could not be examined. The lesion in the bone was simply that of necrosis. Whether there was any relation between the cord lesion and the atrophy, M. Dubreuil was not prepared to affirm.—*Revue des Sciences Médicales*, April 15, 1886.

PULMONARY ŒDEMA.—In 1878 Welch advanced a theory, founded upon certain experiments, of pulmonary œdema according to which the condition was due to left cardiac insufficiency; the right ventricle continuing to contract with force, a stasis of the blood within the lungs occurred. Sahli has recently repeated these experiments and performed others, from a study of the results of which he draws the following conclusions (*Archiv für Exper. Path. und Pharmak.*, No. 6, vol. 19): 1. Pulmonary œdema is never produced in the manner described by Welch. 2. In the majority of cases the affection is not due to stasis of the blood, but is similar to nephritic or cachectic œdema. 3. In sufferers from heart-disease there arises sometimes, though rarely, an œdema from blood stasis due to regurgitation from the left ventricle. 4. Phlebotomy is a therapeutic measure, as efficacious as it is rational, in the treatment of œdema from blood stasis, and it would probably be of equal value in other forms of pulmonary œdema. 5. The operation of transfusion of blood is contraindicated in œdema of the lungs or when circulatory troubles threaten.

A MODIFIED PIROGOFF'S OPERATION.—At the recent congress of Russian practitioners, Professor Tauber described and demonstrated on the dead subject an operation for removal of the foot, which he believes has several advantages over Pirogoff's amputation. Standing on the outer side of the limb, he commences an incision at the insertion of the tendo Achillis, and carries it forward just below the external malleolus to the dorsum of the foot, and then vertically downward on the inner side in front of the heel. When the middle line of the sole is reached, the incision is carried along it backward and prolonged upward to the starting-point at the insertion of the tendo Achillis, a flap having thus been cut consisting of the inner side and half the sole of the heel. The joint is then opened, the external ligaments being first divided and then the internal. The astragalus is seized with the bone forceps and removed, and the anterior part of the foot cut off by Chopart's line, nothing being left but the os calcis, the soft coverings of which on the inner aspect are untouched. The os calcis is seized with the bone forceps and turned so that the articular surface is toward the operator. The forceps are now taken by an assistant, who holds them tightly; the operator then saws the bone longitudinally in two; the outer half, which is free, is removed, the inner half remaining attached to the flap. The ends of the tibia and fibula are then sawn off just above the malleoli. The cut surfaces of these will be found to correspond almost exactly with that of the os calcis, which is not brought into apposition with them. The advantages claimed for this operation are: 1. The posterior tibial artery itself is untouched, only its

branches being divided. 2. The insertion of the tendo Achillis, as well as its bursa, are not injured. 3. The surfaces of the os calcis and of the leg bones correspond very nearly to one another.—*The Lancet.*

Some Curious Dislocations. — Mr. H. Addison writes in *The Lancet* of April 3, 1886, that he was witness of an accident, happening opposite his house, which resulted in a curious dislocation of the third cuneiform bone. A man was endeavoring to mount a barebacked horse, which was standing close to the curbstone. He threw his right leg over the animal, which started forward with a bound, dislodging him backward. As the horse passed from under him, he came down upon the edge of the curbstone with his left foot flexed and abducted. The sole was also somewhat everted. The patient, a man of about thirty-five years, of pale and relaxed fibre, showed upon examination a dislocation of the external cuneiform bone. The luxation was somewhat peculiar; the entire bone, being displaced upward, lay upon the inner edge and dorsum of the os cuboides. About half the dorsal surface of the cuboid bone was covered by the plantar surface of the cuneiform. The displaced bone could be very distinctly seen through the stretched skin of the dorsum of the foot, as if a cube had been placed under it. The patient suffered very little pain, and the bone could be easily reduced by mere pressure upon the dorsal surface, with only the slightest possible extension of the toes. When the foot was flexed by the will of the patient the luxation recurred. The member was placed in an appropriate splint, with a graduated pad over the displaced bone. The man was then removed to his home, some miles away. He thus passed from Mr. Addison's care, and nothing further was heard from him. Dr. H. A. Hallett reports in the *British Medical Journal* of May 8, 1886, the case of a laborer who came to him saying that he had fallen off a tree, and that a branch he had been lopping had fallen on and hurt his wrist. On examination a conical protrusion was found on the back of the right hand, which proved to be the carpal end of the metacarpal bone of the middle finger, entirely dislocated. The deformity was soon reduced by traction and manipulation; but, on the slightest movement of the hand, the bone became again partially dislocated, and kept rising up as soon as replaced, being only kept in position by pressure. The hand was extended on a splint, and a pad and bandage applied.

Genital Manifestations of Malaria.—M. Girard has observed in Turkey, Italy, and America various affections of the genital organs which he believed to be of malarial origin. He based his diagnosis of malaria in these cases not only on the enlarged spleen, intermittent febrile paroxysms, cachectic hue of the skin, etc., but also upon the results of a microscopical examination of the blood. He describes, as dependent upon paludal infection, orchialgia, neuralgic orchitis, epididymitis, and urethritis. He has observed, also, an ordinary gonorrhœal orchitis in which the symptoms were paroxysmal in character, the pain being intermittent, and specific urethritis, in which the discharge was intermittent and coincided in time with well-marked malarial paroxysms of fever, etc., disappearing as these attacks passed off.—*La Crónica Médica*, May 5, 1886.

Treatment of Catarrhal Icterus by Enemata.—Lowenthal states that he has seen remarkable success follow the use of rectal injections in the treatment of catarrhal jaundice. The following is the method as practised by Professor Meyer, of Vienna. The first day from two to four pints of water at a temperature of from 53° to 55° F. are injected; the second day the same quantity is employed, but the temperature is raised to 58° or 60° F.; on the third day water at 65° F. is used, and on the fourth day the temperature is raised still further, to 75° F. Usually this is sufficient to effect a cure, but if not, the injections are continued, the water being warmed a few degrees more each day. For children the quantity of fluid should not exceed a pint and a half, but in the case of adults from three to four pints may be used. The dejections are at first of a clay color, but by the third day they become yellow. The epigastric pain and feeling of weight over the hepatic region are relieved usually by the first injection, and the appetite quickly returns, and the icterus fades. The writer states that he has seen this mode of treatment employed in over forty cases, always with success.—*Gazzetta Medica di Roma*, May 1, 1886.

A Large Biliary Calculus.—The following case is related by Dr. Roeser in the *Gazette de Gynécologie* for May, 1886: "The patient was a woman, sixty-five years of age, somewhat obese, but of fair general health. She had previously had one or two attacks of hepatic colic, the last one of which was rather severe and accompanied by vomiting and slight jaundice. Some three weeks later she noticed, while at stool, that some hard body obstructed the passage, preventing defecation. This was removed by the finger introduced into the rectum, and was found on examination to be a biliary calculus. It had a flattened ovoid shape, and measured an inch and a half in its longest diameter and one inch in its shortest. On being broken its central portion was found to consist of a granular friable matter, dark in color, and somewhat resembling snuff. This suggested dried blood, but examination showed it to be composed of bile pigments and earthy carbonates, no trace of blood being found on microscopical or spectroscopical examination.

A Classical Remedy for Hiccough.—Dr. A. G. Gibson calls attention to the old Hippocratic aphorism, "Sneezing occurring after hiccough removes the hiccough," and suggests, in cases of hiccough, the production of sneezing by tickling the nostrils, and he tells us that he has in this way been very successful in the arresting of this disagreeable affection. Hiccough, as well as sneezing, is one of the specially modified respiratory movements, and it is quite in accordance with what we know of the transference of nervous action that the spasmodic contractions of the diaphragm should cease on the induction of the explosive expirations which constitute the acts of sneezing. There is one point, however, which deserves special mention. It is not necessary that the stimulus applied to the nose be followed by sneezing. The application of a gentle irritant to the nasal mucous membrane may be quite enough to put a stop to the hiccough, by diverting the nervous energy into other channels, although it may not be of sufficient power to induce sneezing.—*The Lancet and Clinic.*

Headache in School Children.—Professor N. J. Bystroff has examined 7,478 boys and girls, in the St. Petersburg schools, during the last five years, and found headache in 868; that is, in 11.6 per cent. He states that the percentage of headache increases almost in a direct progression with the age of the children, as well as with the number of hours occupied by them for mental labor; thus, while headache occurred in only five per cent. of the children aged eight, it attacked from twenty-eight to forty per cent. of the pupils aged from fourteen to eighteen. The author argues that an essential cause of obstinate headache in school children is the excessive mental strain enforced by the present educational programme, which leaves out of consideration the peculiarities of the child's nature and the elementary principles of scientific hygiene. The overstrain brings about an increased irritability of the brain, and consecutive disturbances in the cerebral circulation. Professor Bystroff emphatically insists on the imperative necessity for permanently admitting medical men to conferences of school-boards. Of palliative measures he mentions methodical gymnastics, mild aperients in well-nourished children, steel in the anæmic, bromides, inhalation of oxygen, and, in severe cases, a temporary discontinuance of all studies.—*British Medical Journal*, May 15, 1886.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 12, 1886.

OPPOSITION TO THEORIES OF MICROBIAL INFECTION.

AT the meeting of the Alabama State Medical Association, held in Anniston on the sixteenth of last month, Dr. B. J. Baldwin reported twenty-five successive extractions of cataract without a failure. In the course of his remarks on these cases he said that he had used no disinfectants, and did not consider them necessary outside of hospital walls. He also said that he had been very much interested, and rather amused, at the scrupulous disinfection of the eyelids and eyeballs, and the hysterical anxiety to have even both eyes deluged in solutions of bichloride of mercury and boracic acid preceding every operation. He did not wish to be understood as denying that disinfection might often do good in the poisoned wards of old hospitals, but he did assert that anything more than cleanliness, in the extraction of cataract, outside of the hospital, was unnecessary and sometimes even harmful.

Then speaking of antisepsis in general, he continued: "I do not believe, furthermore, that there exists in all space a deadly venom ready and anxious to leap into every wound, to hasten the part on to destruction. There is bread that hath no leaven, and air as well without germs. Many of my friends may think this unpardonable heterodoxy, and my German confrères will no doubt stand aghast, but I am confident that they will sooner or later come to the conclusion that the world is not so soaked in bacteria as they at present imagine. It is difficult to conceive that an all-wise and ever-merciful Maker would have so filled His universe with these infinitesimal death-worms, and that fresh air and sunshine are simply the danger-house from which they may be signalled when an opportunity to attack a wound arises. Cleanliness embraces all of the virtues of disinfection, and it is the sole element of its success."

These are certainly pretty strong words, but judging from the indications we see about us we may expect now to hear declarations of this sort from many different quarters. The opponents of bacteriological theories are beginning to assert themselves with much more vehemence than they dared to use a short time ago, and, gaining courage as they proceed, they will give the advocates of the new doctrines a task in defending their theories. We are not sorry to see the signs of the approaching struggle, for, true or false, the microbial theories have, we think, been too readily accepted by the mass of the profession upon the authority of a few learned investigators. All the arguments pro and con have not yet been set forth as clearly as they might be; and an animated discussion will do good in establishing the truth or falsity of these latest theories of disease. But the conservatives must remember that talk is not always argument. The bacteriologists allege facts and experimental research as the basis upon which their theories rest, and their opponents must bring forward equally strong facts if they wish to gain the approval of the profession for their cause.

A QUESTION OF DIGESTION.

THE doctor is, perhaps, the very last individual to whom a student of social topics turns for advice. Yet he might, at times, learn something even from this source, of which Descartes, at least, has spoken in terms of more than respect.

Modern philosophy has taught us that man, in his fœtal growth, gives us a minute but faithful image of the slow development of animal forms. We learn evolution from embryology. So, also, it has been shown that man, in his post-natal growth and life, is a perfect prototype of the social body. In the development of a united nation one sees the same differentiation of function, the same classes of vital phenomena, and, in a measure, the same disorders as in the individual. It is the old illustration of macrocosm and microcosm, which Goethe understood long before it was elaborated by Herbert Spencer.

It is, we think, sufficiently demonstrated, then, that the doctor who studies the cause of disease in man may suggest something, and that with much confidence, as regards the troubles of man in the mass.

There is to the medical mind little doubt that the United States is now suffering from a condition of indigestion, which has culminated in attacks of *embarras gastrique*. The trouble until lately was a mild one, characterized more by flatulence and anarchical belching than by a serious disturbance of nutrition.

But it appears that we are getting beyond mere flatulence. A man cannot prosper on a steady diet of sole-leather and cellulose, neither can the United States quite assimilate a decennial dose of a million and a half of foreigners, mostly of the non-disinfected class.

Smiling philosophers, like Henry Ward Beecher, tell us that this is the land of the free, and that our institutions are strong and noble and sufficient; and so let the foreigner come, whoever he be.

But to the medical philosopher this is not good sense.

When a man of magnificent constitution has been steadily gorging himself until he is all blotches and biliousness, we do not say that—the stomach being originally sound, and the constitution naturally substantial—a continuance of the same diet is perfectly safe. Pathology teaches that constitutions do not work up to bad diets, but bad diets gradually undermine the constitution.

And the question now is, whether the United States has a stomach that can manage all the lower classes of Europe.

Our politicians think that it has, because they can manage better newly made voters; our corporations have thought so, because these new voters furnished cheap

labor, but the doctor, with his dietary experiences, feels much doubt. As regards immigrants he would advise a restricted diet, and as regards the anarchical immigrated, perhaps a free purge.

A NEW METHOD OF TREATING WHOOPING-COUGH.

THE parasitic origin of whooping-cough has been asserted and denied by various observers ever since 1867, when Poulet first described what he believed were the specific organisms of the disease. The *a priori* probability that there is a parasite at the bottom of the trouble has led to continued reinvestigations, ending, we are told by Dr. Wm. H. Barlow, in the successful researches of Professor Moncorvo, of Rio Janeiro, in 1883. This gentleman claims to find in the laryngeal and bronchial secretions minute micro-organisms (micrococci), which increase in number with the progress of the disease, and disappear when the patient is cured. No further evidence that these micrococci are pathogenetic is cited by Dr. Barlow, but their discovery was sufficient to induce Moncorvo to institute an anti-parasitic treatment, which he has found very successful, and which Dr. Barlow has adopted with equally good results. Moncorvo reports seventy cases and Barlow fifty thus treated. In Barlow's cases all recovered, and the average duration of the disease was five and one-half weeks. The ordinary duration is generally put down as from eight to ten weeks.

The treatment consists in the application with a brush, every two hours, of a one- or two-per-cent. solution of resorcine. The applications are made to the pharynx and its supra-glottic portion, as well as to the opening of the glottis.

Dr. Barlow gives the following conclusions: "1. That whooping-cough is to be classed among the diseases which are caused by the irritation excited by the presence of parasites. 2. That it is due to the presence of micrococci, which proliferate in large numbers upon the lining membrane of the larynx and pharynx, and which infiltrate the epithelial cells, which seem to be the preferential seat of their growth and increase. 3. That resorcine, in a solution of the strength of one or two per cent., applied directly to the mucous surfaces concerned, has been found, in all cases in which it has been employed and the results watched, to rapidly reduce the number of chinks, to reduce their intensity, and finally to lead to the cure of the disease." This last word "cure" is a bold one, but if the first and second propositions are held to be proven, then there can be little doubt that it is properly used. For if there are no other diseases *cured*, yet certainly those which are due to the irritation of a parasite are cured when that parasite is destroyed.

"Lastly, the mode of application by means of a brush or swab is not the only mode in which it may be made; perhaps by some of the recently used instruments for applying medicated spray to the interior of the larynx and the adjacent parts of the throat (as that recently described by Dr. Miller, of Windsor, and by Dr. Hodgkinson) it may be applied yet more effectually than by the methods adopted by Professor Moncorvo and myself. And, again, it is not finally proven that resorcine is the best application that may be found. Perhaps in its near congener, orcine, we may have a still better agent for this purpose, for we find in a note by J. J. Andeer, in the *Gazetta Medica Italiana-Lombardia* of July 4, 1885, that "Orcine possesses almost all the physical properties of resorcine; but while the latter is caustic in large doses, orcine is never more than astringent and antiseptic."

The treatment, as will be seen, though announced as a new one, is in reality only carrying out more systematically the suggestions of previous physicians. Thus, as Dr. Barlow says: "Tordeus has used the benzoate of soda, Keuster, inhalations of thymol; Huebner, salicylate of soda; Hildebrandt, inhalations of petroleum vapor, etc. Resorcine was selected by Moncorvo because of its innocuousness."

The specific treatment of whooping-cough has always run in two lines, viz., toward antispasmodics like the bromides and belladonna, and toward germicides like carbolic acid and resorcine. That we shall be able as a rule to apply germicides so thoroughly as to be specifically effective remains to be seen. It is certain that in antispasmodics and sedatives the best results have so far been obtained, and belladonna and the bromides still hold their place.

A NEW MICRO-ORGANISM OF PHTHISIS.

Two French observers, MM. Duguet and Héricourt, claim to have discovered that the very common fungus, so often seen on the bodies of the phthisical, causing pityriasis versicolor, may itself be a cause of phthisis.

In some cases of acute phthisis the tissues were found to contain no bacilli, but there were observed the mycelia identical with or allied to those of the *microsporon furfur* (the fungus of pityriasis). Similar mycelial threads were also found in the expectoration mixed with the bacilli. When the microsporon furfur is cultivated and injected into guinea-pigs and rabbits, these animals become, without exception, tuberculous, and the same result is obtained by insufflation into the trachea of the crusts of pityriasis. Moreover, the cultures of microsporon furfur, of tubercle produced from the fungus, and those from tubercles of man are precisely the same in character. Cultivations can be made in slightly alkalinized bouillon or in milk, when it becomes possible to distinguish an aërobic and an anaërobic element. The former floats at the surface, and at a temperature of from 30° to 38° C. forms a thick membrane composed of bacilli. The latter is found at the bottom of the cultivation-tube as a mass of granulations and mycelium. The polymorphic character of the tubercle bacillus is thus, says *The Lancet*, manifest, and the opinion of Spina receives support as to the variety of the forms of microbes in tuberculosis.

It seems more probable, however, that the observations of Duguet and Héricourt were not carefully made.

MILITARY DRILL IN THE SCHOOLS.

AN interesting discussion upon the above subject has been awakened by Dr. Charles F. Withington, who read a paper upon it at the recent meeting of the Suffolk District Medical Society. Dr. Withington criticises the drill and intimates that it is an imperfect form of physical exercise, and one which sometimes causes lateral curvature.

His objections as summed up were :

" 1. The anatomical objection, based upon the fact of the obliquity of the superincumbent weight with reference to the spinal axis.

" 2. The physiological objection, based on the production of a *tension* of the muscles, rather than of that constant alternation of activity and repose which best conduces to their nutrition.

" 3. What may be called the philosophical objection, based on a lack of adaptation in design for the end to which the system has become converted."

In the discussion upon his paper a large number of teachers, and military and medical men took part.

All the teachers, with one exception, and all the military authorities favored the drill, not only for its value as a physical exercise, but for its moral effect.

On the other hand, Professor Dudley A. Sargent said that as an exercise it is " thoroughly bad," and sometimes causes asymmetry and lateral curvature. Dr. Bradford, while not recommending it as a perfect exercise, had not seen lateral curvature due to it.

The facts as gathered from the discussion appear to be that the military drill is a very good, though not perfect, means of physical exercise ; to say it is " thoroughly bad," or even unsafe, is evidently absurd, provided the drill be carried on with light arms, and ordinary supervision of individuals be exercised. To make up for its deficiency as a gymnastic exercise we have its disciplinary and moral effects, concerning which opinion is unanimous.

On the whole, we should say, continue the military drill in our schools, using arms adapted to the strength of the children, and bearing in mind the occasional bad effects on the development of the trunk and arm muscles.

CHRONIC DIPHTHERIA.

ALTHOUGH diphtheria is usually ranked among the infectious diseases, it is often impossible in individual cases to trace its occurrence to any specific cause, and this is one of the arguments sometimes brought forward by the advocates of "auto-intoxication" against the theories of infection and of the parasitic origin of infectious maladies.

At a recent meeting of the Epidemiological Society of London (*British Medical Journal*, March 6, 1886) Dr. D. Astley Gresswell offered an explanation, which may possibly be a correct one, of these occurrences. He drew attention to the fact that many persons for years after an attack of diphtheria suffer from sore throat, liable to exacerbations, and said that in several instances he could give no satisfactory explanation for an outbreak of diphtheria, unless he admitted the possibility that persons suffering in this way retained diphtheritic infectiveness. He detailed six outbreaks in which the above explanation seemed to him to be the only reasonable one that offered itself. In one instance about thirty or more persons had been taken with, and five of them had died of, diphtheria contracted directly or indirectly from a girl who had suffered from the chronic condition referred to. He also detailed the history of sustained prevalence of diphtheria in a farm-house from March, 1881, to July, 1885 (the latter being the date of his inquiry into the prevalence at the farm-house), and in this a like explanation seemed to be the only one open. Dr. Gresswell dwelt upon the evident bearings which diphtheria in chronic and recrudescent phases had upon sustained prevalence of the disease in a community, and cited analogous instances, such as syphilis, ague, glanders, scarlet fever, and typhoid fever, as tending to support his theory. He suggested that recrudescence of disease, dependent upon a parasitic organism, might prove to be interpretable as due to such rejuvenescence of the parasitic organism as was known to occur among the cryptogamia.

In all the instances in which these cases had been found, the surrounding conditions were such as would be unhesitatingly pronounced unwholesome ; and the speaker suggested that persons living under these conditions, instead of entering upon a straightforward recovery, lapsed, so to say, into a chronic condition, the diphtheritic virus leading a smouldering life in the tonsils for weeks and months, and at times (especially when the person had been exposed to wet and cold) entering upon a renewed vitality.

If this explanation be the true one, it only furnishes additional force to the evident necessity of attending to the sanitary conditions of our dwellings, and furthermore, of not dismissing a patient after diphtheria until the chronic tonsillar trouble sometimes remaining is definitely cured.

THE REVIVAL OF A FOLLY.

IT is as true of fashion as of history that it repeats itself. It is not so many years ago that every argument of reason and of ridicule was brought to bear against those silly women who thought that by reducing their poor waists to a span they were making themselves more shapely. They finally did abandon the habit of tight-lacing, and doubtless some clever and well-meaning, but evidently rather weak-minded, physicians really thought that they themselves had, by voice or pen, aided in bringing about this happy change. But they had nothing to do with it ; fashion did it. And now, we regret to say, fashion seems to have repented, and to be bent on undoing one of her few good works. One can almost see the women's waists grow smaller, and their hideous deformity grow greater, from day to day. And yet the orthopædists are dumb.

If we thought it were any use to sermonize we might detail anew all the evil consequences to health surely following upon such cruel distortion of the body. But it would be a thankless and a fruitless task. Women will have their own way, and no amount of reasoning can tear them from their allegiance to their dressmakers. One might as well try to convince the Chinese that they do wrong in distorting the feet of their female infants, as to turn a fashionable woman from any folly when fashion dictates it. We therefore refrain from argument or reproach, and merely perform the sorrowful duty, imposed upon us as a chronicler of events, of recording the fact that tight-lacing is once more coming into vogue. We can but pray that the epidemic may be short-lived, and that our weak sisters may speedily be delivered from their dire affliction.

DEATH OF ANOTHER OF PASTEUR'S PATIENTS.

THE cable brings the news of another death from rabies of a patient who had been inoculated by Pasteur. The victim was a Roumanian who had been bitten by a mad dog on May 11th, and who was put under treatment on May 25th, fourteen days later. He had been under treatment for eleven days when, on June 5th, he began to show evidences of rabies, and died with the symptoms well marked on June 7th.

It is difficult to see how this case can be explained; and the most that Pasteur can claim now is that after inoculation the ratio of deaths is lessened, as he would claim, from 16 to 0.2 per hundred. Less indulgent critics, who believe that the deaths from wolf rabies should also be counted, would place the ratio at 0.7 per cent., for Pasteur has now actually inoculated about one thousand persons, of whom seven have died. It is very true that 0.7 per cent. is a low mortality rate, but it has unfortunately yet to be determined how many of the inoculated were really bitten by mad dogs.

It is not in the least probable that the Roumanian whose death occurred while under treatment was really inoculated with the disease, although that view will no doubt be suggested. We think that it must be conceded that Pasteur's inoculations are at least harmless.

"THE DANGERS OF KISSING."

THE custom of kissing has been condemned by the wise and frowned upon by the religious, but has managed to thrive despite it all, and is still love's great artillery and best ally. Why tactile sensations from a limited labial surface have been found so very agreeable, and why they should have contributed so much to the poetry and pairing off of the human race are questions quite worthy of full discussion. Kissing, we are told, began with the birds, and reaches its most perfect evolution in man. It has a long history, therefore, and may well be considered a permanent feature in human society—solacing grief, increasing joys, promoting wedding engagements, and furnishing a permanent source of inspiration for the artist.

But an enemy to the kiss has appeared in Washington, D. C., in the person of Dr. Samuel S. Adams, who devotes seven columns of the *Journal of the American Medical Association* to exposing the "dangers of kissing." Everything has its dark side; and so, no doubt, has kissing, especially in Washington, where Dr. Adams lives and where one-half the population is African. If Dr. Adams has painted its dangers in somewhat lurid colors, it may have been thought quite necessary in order to put any check upon so popular a social custom.

The objections to kissing set forth by Dr. Adams are twofold—moral and physical. Kissing, he thinks, has become too common. Among women and between children and adults it has degenerated into an insincere, unmeaning, and commonplace salutation, when it should be reserved only as an index of affectionate feeling. But the weight of the doctor's argument is expended in showing the possible evils which come from the promiscuous kissing of babies and children by adults. Syphilis, tuberculosis, diphtheria, infectious fevers, herpes, eczema, stomatitis, cancrum oris, mechanical distortions of the mouth, injury of the eyes, rupture of the tympanum—all are possible on actual results of kissing. A veritable instance is cited, in which the drum of the ear was ruptured by a kiss applied to the external auricular appendage! A kiss of such a suction force reminds one of Benedict's, which had "such a clamorous smack that, at the parting, all the church did echo."

The bad moral influence exercised upon girls and boys who, when approaching puberty, are fondled and overkissed is very truthfully and forcibly depicted by Dr. Adams. It cannot be denied that the promiscous kissing of children by strangers, or those comparatively so, is an extremely pernicious practice. This, we believe, is being realized by parents, and few nurses are sent out without directions not to allow the infant to be kissed. In the general gloomy view of kissing taken by Dr. Adams it is not necessary to share. Although we may not realize as he does the wide-spread and endemic character of the kissing habit in Washington, we can only trust it will prove a safe place for the International Congress. It would be a painful sight, indeed, to see the American Medical Association's honored guests going home disfigured with labial herpes and ulcerative stomatitis.

News of the Week.

THE PRACTITIONERS' SOCIETY OF NEW YORK.—At the annual meeting of this Society, June 4th, Dr. George F. Shrady was elected President.

A CASE OF HYDROPHOBIA CURED BY SWEATING is reported to have occurred at Odessa (*Lancet*, May 26th). The patient was a boy who had been bitten by a mad dog several days before the symptoms developed.

VIRCHOW'S JUBILEE.—Professor Virchow recently completed the thirtieth year of his occupancy of the chair of Pathological Anatomy at Berlin.

THE FUNCTION OF THE THYROID GLAND.—So much has been said about the importance of this gland that the following related by Dr. J. Pohlman in the *Western Medical Press* is of interest: "From three dogs, ordinary curs, picked up in the streets of Buffalo, I removed the entire thyroid glands on April 15th, 19th, and 22d, respectively, and all three not only survived the operation, but did well and have been improving in flesh right along up to date (May 23d), when they were used for other experiments."

Dr. J. P. Bramwell, Surgeon to the Perth Infirmary, also reports in the *British Medical Journal* of May 29th, the case of a young man whose enlarged thyroid he removed one year ago. The patient up to date has shown no signs of physical or mental deterioration.

AT THE ANNUAL MEETING OF THE FLORIDA STATE MEDICAL ASSOCIATION, May 18, 1886, the following officers were elected for the ensuing year: J. W. Porter, of Key West, President; A. W. Knight, of Jacksonville, Secretary; J. D. Fernandez, of Jacksonville, Treasurer. We note from the *Florida Medical and Surgical Journal* that the Society is prospering, and the profession in the State becoming better organized. Much credit for this is due to the *Journal*.

PHTHISIS AND PITYRIASIS.—MM. Duguet and Héricourt, who made a communication to the Academy of Medicine concerning the identity of the microsporon of pityriasis vesicolor with the bacillus of tuberculosis (see *Journal*, May 14th), have written to say that further researches obliged them to withdraw the theories and opinions formulated in that communication.

TYPHOID FEVER IN THE UNITED STATES.—About twenty-five thousand deaths from typhoid fever occur in this country annually, and this represents fully one hundred and fifty thousand cases of the disease. The hundred and twenty-five thousand persons who recover, lose six weeks out of their lives, and carry perhaps some vestiges of the fever's influence for years.

DR. HENRY HOWARD ON LOUIS RIEL.—Dr. Howard closes an account of his observations made upon Riel when confined in a lunatic asylum in 1876, as follows: "What I have written of poor Louis D. Riel I have not written for politicians nor for nationalists. I have simply written for the sake of imparting knowledge to the physical scientist or natural philosopher. I admitted Riel simply to protect him from his enemies, and for the same reason I recommended his discharge. I suspect his friends knew these facts, and that was why I was not brought to give evidence on his trial; because, if I were asked, 'Did he know right from wrong?' I would have been obliged to answer 'Yes.' From his own statement on his trial, he was pleased to think I did not consider him *insane*. But I did consider him an abnormal man, a man with a teratological defect in his psycho-physical organization; and if he was guilty of the crime of which he was accused, and I believed he was, he was guilty because he was like all other criminals—not an intellectual man, but a fool, one of the millions of the immoral, criminal fools that I have already written of."

THE STRIKES.—The present phenomena of the strikes are ingeniously shown by the *Boston Medical and Surgical Journal* to resemble the imitative diseases known as myriachet, "the jumpers," etc. The blind obedience and automatic unreasoning imitation shown in many of the strikes certainly suggests that they have in them the elements of a neurotic epidemic.

COMPOUND OXYGEN.—The *Journal of Chemistry* publishes again the well-known analysis of "compound oxygen." It is a solution of nitrate of ammonia, a solution which, taken internally or inhaled, can no more yield oxygen than so much cold water. This nostrum, comments the *Boston Medical and Surgical Journal*, which has so long imposed upon a credulous and easily duped public, owes its success largely to the conspicuous place it has held in the advertising columns of eminently respectable journals. That newspapers devoted to religion (or at least to some religious sect) should find it for their interest to make the management of their advertising columns a matter of business only, is not surprising; religious journals cause us surprise only when they rule out "medical" advertisements altogether from their columns.

AN EFFORT TO SECURE THE ENDOWMENT with the sum of $250,000 of the New York Homœopathic Medical College is commented upon by the *N. Y. Medical Times* as follows: "This institution does not represent medical science and art, but rather Hahnemann and Homœopathy. Is it not rather late in the nineteenth century, Messrs. Trustees of the New York Homœopathic Medical College, to appeal to liberal and intelligent men for aid to endow and dedicate to science an institution of learning devoted to the promulgation of one idea, and that idea embodying a fragment of the truths of therapeutics?"

WHY NEGROES HAVE WHITE TEETH.—Science occasionally illuminates the dark spots of our ignorance with such effulgence as to completely overpower one. As a case in point, we note the announcement in the *Florida Medical Journal*, that Southern dentists have discovered that the peculiar whiteness of the negro's teeth is due to the excess of white blood-corpuscles.

OPINIONS OF THE ACTION OF THE AMERICAN MEDICAL ASSOCIATION.—There is a very general consensus of opinion regarding the last meeting of the Association, and it is expressed well by the *New Orleans Medical and Surgical Journal*, which says: "We believe that the action of the Association in regard to the action of the Judicial Council on the admission of the delegates of the Philadelphia County Medical Society was unwise and, at this particular juncture, well calculated to alienate many of the most esteemed of our Eastern confrères. . . . We believe that the policy of the Association in regard to the organization of the International Congress has added but little to the prospect of a very successful meeting at Washington. In our opinion, conciliatory efforts should have been made to re-enlist the interest of our distinguished brethren who were at one time connected with the Congress."

THE NEBRASKA STATE MEDICAL SOCIETY held its annual meeting at Lincoln June 1st, 2d, and 3d.

THE MICHIGAN STATE MEDICAL SOCIETY held its twenty-first annual session at Jackson, beginning June 9th.

PROFESSOR R. T. EDES has resigned the Chair of Clinical Medicine in the Medical School.

HOW TO TAKE THE TEMPERATURE QUICKLY.—This may be done, according to Dr. Fitaloff, by warming the thermometer till the mercury stands at 106° or over, then placing it quickly in the axilla, where it need remain only one or two minutes.

PHOTOGRAPHING THE RETINA OF THE LIVING HUMAN EYE.—Mr. W. T. Jackman, of Coggeshall, Eng., has (*Photographic News*) made some fairly successful photographs of the human retina.

HUNTING FOR A WET-NURSE.—It is not *de rigeur* for the Queen of Spain to nurse her infant son, consequently her physician has had to hunt up a wet-nurse. So far he has had to interview and examine twenty-seven applicants for the honorable position of suckling a king.

YELLOW-FEVER INOCULATIONS.—Dr. H. M. Lane, of Carthage, Mo., while on a visit to Rio Janeiro was inoculated by Dr. Freire with the attenuated yellow-fever virus. Dr. Lane thinks it protected from the disease. We learn that some of the culture-fluid employed by Dr. Freire has been placed in the hands of the bacteriologists of Johns Hopkins University.

THE "MIDDLETON-GOLDSMITH" LECTURES OF THE NEW YORK PATHOLOGICAL SOCIETY.—A series of lectures on the "Pathology of the Peripheral Neuroses" is to be delivered next season.

REGULATION OF VETERINARY MEDICINE IN NEW YORK.—The passage by the last Legislature of the bill to regulate veterinary practice makes New York the first State to undertake this work. The law compels the registration of veterinarians at the county clerk's office, and makes it incumbent on those registering to have a diploma.

AN OUTSIDE VIEW OF US.—While we have pleasure in offering our congratulations on the measure of success attained by the American Medical Association during the last thirty-seven years, we cannot but regret the fact that such success is far short of what might have been expected from the grand army of surgeons and physicians in the United States. During the last few years those whom we are accustomed to look up to as the leaders of the profession on this continent are but poorly represented at its meetings, and the tendency appears to be to diminish their numbers year by year. When we consider the status of that greatest medical organization in the world, the British Medical Association, and see how immeasurably superior it is to the American Society in every respect, we are utterly unable to evince any great enthusiasm over the results of the St. Louis meeting. Why does the American medical profession allow this condition of things? Its Association seems to have fallen into wrong hands. Who is responsible for this?—*Canadian Practitioner.*

THE FACULTY OF MEDICINE of the University of Vienna has had a steady increase in the number of its medical students since 1878, until in 1885-86 the number was 2,673.

INOCULATION FOR YELLOW FEVER.—In a letter recently received from Dr. Domingo Freire, of Rio de Janeiro, by Dr. Joseph Holt, President of the Louisiana State Board of Health, the following statement is made, presenting a summary of the results claimed for his inoculation for yellow fever: "I have performed over seven thousand inoculations with full success. The immunity was almost absolute, notwithstanding the intensity of the epidemic this year. More than three thousand persons who were not inoculated died of yellow fever, while among the seven thousand inoculated, inhabiting the same infected localities, subject to the same morbid conditions, but seven or eight individuals whose disease was diagnosed as yellow fever died. My confrères here have the careless habit of not giving notice of the fact until after the interment of the individuals, and, consequently, accuse me of being unsuccessful. You therefore see that in spite of all this bad will my doctrine comes out victorious once more by the test of the year when the epidemic characterizes itself by energetic intensity of infection and contagion."

DISCOVERY OF THE ACTIVE PRINCIPLES OF COD-LIVER OIL—MORRHUOL.—Dr. Lafarge, of Paris, has separated from cod-liver oil a substance containing all the active ingredients of the oil except the fat. This substance he calls morrhuol. It contains twelve times as much iodine, bromine, and phosphorus as the original oil, but these elements exist in a state of combination difficult to destroy. The quantity of morrhuol obtainable varies, according to the quality of the oil, from one and one-half to six per cent. When cod-liver oil is deprived of the morrhuol, it no longer possesses the properties which make it so valuable, and acts simply as a fatty substance. In order to cover the disagreeable taste of the morrhuol, it is best given in capsules containing five grains of the extract, corresponding to a drachm and a half of the crude oil. Two of these capsules a day in young children, or four daily in older children, have, Dr. Lafarge says, proved of great service in his hands. It also relieves the cough of phthisis.

Reviews and Notices.

RECHERCHES SUR LE MICROBE DU CHOLÉRA ASIATIQUE. Par le DR. E. VAN ERMENGEM. Paris: G. Carré. 1885.

DIE CHOLERA. Von MAX VON PETTENKOFER. Berlin: S. Schottlaender. 1885.

CHOLERA; ITS ORIGIN, HISTORY, CAUSATION, SYMPTOMS, LESIONS, PREVENTION, AND TREATMENT. By ALFRED STILLÉ, M.D., LL.D. Philadelphia: Lea Brothers & Co. 1885.

A TREATISE ON EPIDEMIC CHOLERA AND ALLIED DISEASES. By A. B. PALMER, M.D., LL.D., Professor of Pathology, Practice of Medicine, and Clinical Medicine in the College of Medicine and Surgery in the University of Michigan. Ann Arbor, Mich.: Register Publishing House. 1885.

CHOLERA; ITS CAUSE AND PREVENTION. By EZRA A. BARTLETT, M.D. Albany: H. H. Bender. 1885.

CHOLERA; ITS NATURE, SYMPTOMS, HISTORY, CAUSE, AND PREVENTION. One of the Somerville Course of Lectures. By J. B. MCCONNELL, M.D. Montreal: Robert Miller, Son & Co. 1885.

FROM a nosological point of view the year 1885 may be aptly termed a "cholera year"—in foreign lands because they actually had this scourge, and in our own country because we were expected to have it. It is possible to conceive a tinge of disappointment arising in the breasts of those among us who, confident of their ability to successfully cope with the dreaded pestilence, found no opportunity to demonstrate their power. But, barring such exceptional beings, there was even in the ranks of the profession only satisfaction and congratulation that the dreaded visitor did not put in his expected appearance. According to a familiar adage, we were certainly forearmed, if easily accessible knowledge concerning cholera may be regarded as an equivalent of being forewarned.

The list of publications heading this notice embraces but a few of the legion of cholera books that have appeared in the year just passed. Nevertheless it is typical of much that has been recently written concerning a disease of which we know so little and which we still have reason to fear so much.

Dr. van Ermengem's now well-known researches are embodied in a work of three hundred and seventy-four pages, supplied with twelve plates containing twenty-four beautifuly executed microphotographs. The volume contains chiefly the results of independent investigations carried on by its industrious author for many months. No more trustworthy or substantial corroboration of Koch's doctrine concerning the parasitic origin of cholera has yet been published. It may indeed be regarded as a complete monograph on the subject of the comma-

bacillus. The mechanical execution of this valuable and interesting work is such as to make us feel jealous of our transatlantic confrères. Certainly no American publisher would care to put a book on the market in such costly garments.

Pettenkofer's brochure of sixty-three pages contains a half-scientific, half-popular exposé of his peculiar views on the essential nature of cholera. He does not accept Koch's doctrine, and still struggles to maintain his older theories on the importance of subsoil water. He does this in face of the array of old and new facts, which show clearly enough that his position is not and never has been tenable.

Dr. Stillé's practical little treatise will prove very acceptable to the profession of our country. Within the compass of 162 pages the author has succeeded in giving a very fair representation of the present status of our actual knowledge concerning cholera. He declines to accept Koch's doctrine as proven, but is unable to give any more satisfactory explanation of the etiology of the disease than is contained in the German savant's theory. He very properly insists on the necessity of quarantine, "not in the literal but in the official sense of the word." The treatment he advocates is the simple one that experience has demonstrated to be alone admissible, all violent measures and special plans or methods being regarded by him as useless, if not barbarous. For a concise treatise on cholera, which does not pretend to supplant more complete works, we can heartily recommend this book from the facile pen of an unusually gifted author.

"A Treatise on Epidemic Cholera and Allied Diseases," by Dr. A. B. Palmer, is an incomplete and, in places, quite inaccurate compilation of the many different views held with regard to cholera, its nature, methods of propagation, prevention, and cure. There is little to make it acceptable to either student or practitioner, who will naturally much prefer Stillé's treatise.

The two little volumes last on the list have no distinctive features of their own. They may possibly be read with profit by the laity, but for physicians they are so fragmentary in the conveyance of their information that they must be classed with the ephemeral literature of the day.

THE SURGICAL DISEASES OF CHILDREN. By EDMUND OWEN, M.B., F.R.C.S., Surgeon to the Hospital for Sick Children, Great Ormond Street, London; Surgeon to, and Lecturer on Anatomy at, St. Mary's Hospital; Member of the Board of Examiners at the Royal College of Surgeons. 12mo, 585 pages. With Four Chromo-lithographic Plates and Eighty-five Engravings. Philadelphia: Lea Brothers & Co. 1886.

THIS book is one of a series of clinical manuals intended for the use of practitioners and students of medicine. All of the surgical affections of childhood are taken up in turn and treated of briefly, but in a satisfactory manner. The work is by no means a complete treatise, and is not intended to be one, but is rather a concise handbook of the subject under consideration. The author wastes no time nor space in referring to theories or in the discussion of various modes of treatment. But we think, if the book were intended for American readers, that its value would have been considerably enhanced by a brief notice, at least, of methods employed by American surgeons, which we may be pardoned for believing are oftentimes superior to those of our transatlantic brethren. For this reason we cannot unhesitatingly recommend the manual as a trustworthy guide for the student or the young practitioner just starting out with but little practical, and a rather confused theoretical, knowledge. For everything except treatment, however, the book is an excellent one, and its perusal, we venture to say, will be beneficial to many a man whose remembrance of his student days has grown dim with time. And, if used in conjunction with other works, it will be of great utility to students as well. The book is very clearly printed, and the use of heavy type serves to emphasize the important points and to enable the reader to find what he wants without any loss of time. The illustrations are very well executed and judiciously inserted, so that they really illustrate the text, a purpose which wood-cuts and other engravings in medical works do not always serve.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL ASSOCIATION. Volume X. For the year 1885. 8vo, pp. 354. New York: D. Appleton & Co. 1886.

FEW volumes of "Transactions" are filled with more attractive and practical material than are those of the American Gynecological Association. The leading gynecologists of the country are its contributors, and the articles furnished by them are always worthy of permanent record. In other words, the papers which appear mark the progress of the science from year to year, as noted by those who stand on the mountain and have a wide outlook. This volume is fully up to its predecessors, which is speaking for it in high praise.

LECTURES ON CLINICAL OTOLOGY. By HENRY C. HOUGHTON. Pp. 260. Boston: Otis Clapp & Son. 1885.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR. By OREN D. POMEROY. Pp. 413. New York: D. Appleton & Co. 1886.

THESE two books represent widely different views on the subject of which they treat, especially in respect to therapeutics, the former presenting the subject from the homœopathists' point of view, the latter from the conventional standpoint.

Dr. Houghton's experiences are mostly in the use of drugs, as indicated by homœopathic provings in the treatment of ear disease, as based on symptomatology rather than on pathology. A large portion of the book, seventy pages, is given up to an appendix, ten pages of which are devoted to a list of abbreviations, and sixty pages to a repertory of drugs classified according to their physiological action. Anyone having an interest in this method of selecting remedies, may here find a most extensive and curious collection, evidently made with painstaking care, worthy of a plan promising more practical results than can be hoped to be derived from such rubbish. The more practical features of the book are derived from current otological literature, and altogether there is an amusing combination of heroic and infinitesimal methods as a result of the author's dual inspiration.

Dr. Pomeroy deals with the subject from the light derived from the obverse side of the shield, so to speak, his book echoing the views of the more gladiatorial pioneers in otology.

The scope of this book is not limited to any portion of the field of otology, and the author is most industrious in the citation of opinions. It would, perhaps, have been more fair had the source of many of the views brought forward been given, but on the other hand, accredited citations might have been omitted without giving offence. A perusal of this book is liable to leave quite a different impression than is given by the former—that the author is rather prone to regard the ear, when diseased, as an organ that should be coerced back to its normal state by energetic means—and those who would know the methods that have been thus tried, or perhaps it should be said adopted, for this purpose, will be gratified by the author's treatment of the subject.

Dr. Houghton's literary style is good, while Dr. Pomeroy is lacking in ease; the book of the former is a credit to the publisher, the make-up of the other is not so good, the illustrations being especially bad—for example, the picture of the "normal" drumhead, as shown on page 42, is probably the worst of its kind that ever found its way into a book.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 3, 1886.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE CORRESPONDING SECRETARY acknowledged the receipt of a donation of bound volumes to the library by Dr. Pliny Earle, of Northampton, Mass., who was one of the founders of the Academy, and who read before it the first paper.

THE PRESIDENT announced that he had received a communication from Julius Althaus, of London, England, a Corresponding Fellow, from whom, as he hoped, the Academy would have the pleasure of hearing a paper in October next.

The President introduced Dr. Samuel C. Busey, of Washington, and invited him to take a seat upon the platform. Ex-President Fordyce Barker also was invited to take a seat upon the platform.

DR. C. C. LEE then read a paper [see p. 670], entitled

THE FUTURE INFLUENCE OF SURGERY AND SURGICAL RESOURCES UPON OBSTETRICS.

The discussion was opened by DR. W. M. POLK, who said that he would not attempt to speak on the operations which Dr. Lee had described so graphically, and which were a sufficient answer to the question implied in the title of his paper. When he began to teach it was in the department of general medicine, therapeutics, and materia medica. But in the course of time he began to teach obstetrics, and he went from one department into the other with the feeling that much the larger part of obstetrics was in the domain of medicine. His education, doubtless, had had much to do with that sort of feeling, for it had been largely influenced by the most accomplished teachings of Professor Fordyce Barker, and he was free to confess that when he stuck to the doctrines inculcated by that eminent teacher he had rarely gone wrong. However, he saw, after a while, that there were certain surgical bearings, which, if neglected, would soon push the practitioner to the wall, and stick him to the wall, and that fact led him to look into the history of the entire question, from which he had been brought to the conclusion that the most successful obstetricians had been those who united as thoroughly as possible the qualifications of the accomplished physician and the skilful surgeon. He had also been led to think that the tendency of the obstetric surgeon was perhaps to do a little more with his knife than his cases demanded. For example, immediate repair of laceration of *the cervix* during parturition, he believed, might better be left to nature aided by cleanliness, rather than at once to resort to operative interference.

But, surgically speaking, obstetricians had been obliged to fight their way against the opposition of those who were imbued with the idea of the mere physician, on the one hand, and upon the other hand, the active opposition of those who were engaged in general surgical work. But, as evidence that finally an enviable position had been attained, he had only to point to the results which had been secured in abdominal surgery. He had no doubt whatever that those who were engaged in abdominal surgery would soon settle the question of Cæsarean section successfully; that the day would come, and was not far away, when craniotomy could be eliminated from obstetric operations; and when that could be done, and successful Cæsarean section could be substituted for it, they would be in a position to say that the greatest work ever accomplished in surgery belonged to obstetricians.

DR. J. H. FRUITNIGHT regarded immediate repair of a lacerated perineum as one of the greatest advances which had been made in obstetric surgery, notwithstanding the fact that nature frequently does the repairing satisfactorily. If craniotomy could be relegated to the past, and Cæsarean section become the substitute, it would be one of the greatest triumphs which obstetrics could achieve.

DR. FORDYCE BARKER thanked Dr. Polk for his kind and complimentary remarks, and said that he was willing to accept the position of one belonging to the class known as midwives, in the sense that he was not a surgeon. Very soon after he began to practise in New York he found that he had in the surgical field such competitors as Marion Sims and others, and, having a natural dislike to procedures belonging to this class of cases, he believed that he exhibited some sagacity by referring the operations belonging to surgical obstetrics to his colleagues, and in giving his attention to those which belong purely to obstetric art. The progress in obstetric surgery had been so rapid that he had been unable to keep fully apace with its advance, and constitutionally he was not inclined to accept new propositions because they were new, and, on the other hand, was not inclined to deny their truth because they were new; yet he would express his opinion on one point in the paper, the whole of which he was unavoidably deprived of the pleasure of hearing, and that was with regard to *primary operations for lacerations of the perineum with parturition*. He recalled the statement of an eminent member of the profession, who once said that "any physician who did not close by the immediate operation a laceration of the perineum neglected to do his duty." At the time it struck him as rather a strong proposition to make, and also rather doubtful, but he did not antagonize the view, and thought that he would wait for its proof, and he had been waiting ever since. Perhaps he might be biased by one fact—the utterance of which might seem a little pugnacious, but he challenged contradiction—and it was that in no case in his own private practice had even the secondary operation been performed by any of our surgical gynecologists; in no case had it been required. He did not mean to say that he had never met with laceration of the perineum, for he had had these cases, but he had watched them closely, and in every case the secondary operation had not been performed by anyone. In his hospital practice such cases may have occurred, but not in his private practice. He was willing to go still further and say that in no case of his had the primary operation been performed until last winter; last winter he had one in which he thought that the primary operation was necessary, and it was performed. Although the greatest care was taken of the patient, union did not take place. The case was one of *justo minor* contraction of the pelvis, in which he delivered a living child, weighing eleven pounds, with Simpson's modification of Tarnier's forceps, and extensive laceration was produced.

Between the first of February and the first of May he had seen, in consultation, forty cases, which presented a peculiar train of symptoms. Previous to the sixth day after confinement there were no symptoms, and then they exploded violently, with extremely rapid pulse, temperature of 104° to 106° F., etc. These violent symptoms, in all the cases except one, disappeared within three days. Only one patient died. Of the forty, five had had the primary operation performed; in only one did union take place. He had repeatedly watched the result of the primary operation after it had been performed by others, and in two cases he had seen profuse hemorrhage in consequence of the shock and exhaustion. In other cases he had been informed that the operation was successful.

Dr. Barker then referred to special cases. One in which, with the first labor, extensive rupture of the perineum occurred, and union occurred spontaneously. In the second labor, a very extensive laceration took place up to the sphincter. In that case he called Dr. Lusk in consultation, who was an advocate of the primary operation, but thought it unadvisable to operate in that case,

and the patient, Dr. Barker thought, had very good union. Another similar case was narrated briefly.

Dr. Barker, therefore, would say that he had seen very many cases in which complete union had taken place, sufficient for all practical purposes, the laceration never having interfered with the position of the uterus or the comfort of the patient; and now, for the first time, he would say that he thought there were many cases in which the circumstances and conditions were such that it would be wise to perform the primary operation, with the hope that union would take place without exhausting the patient; but that in every case the question must be decided by a careful analysis of all the symptoms and conditions. As a general rule, however, he would say that it was safer to avoid the operation, trusting to absolute cleanliness, watchfully seeking for the healthy performance of all the general functions to effect a cure, and in the large majority of cases recovery will take place without the operation.

With reference to the title of the paper, there was no doubt that the future influence of surgery and surgical resources upon obstetrics would be very great; but it seemed to him that the real influence was that which gynecological and obstetric surgery had produced upon general surgery. Dr. Barker then referred to the remarkable paper on "Laparotomy for Penetrating Wounds of the Abdomen," read before the Academy by the late J. Marion Sims, and to the remarks made in reply by the late James R. Wood. Professor Wood's argument was that gynecological surgeons had opportunity to prepare their patients for this class of operations, whereas the general surgeon was called upon to operate under entirely different circumstances, with the patient suffering from, or just emerging from, severe shock, etc. In the majority of cases this was, perhaps, true, and in general the better the condition of the patient, the more likely was the operation to be successful. But the argument did not hold in all respects; there was another side to that view. It was a general principle, well established, that where a source of irritation which was rapidly destroying the patient could be removed by an operation, it was an argument in favor of performing it under circumstances as unfavorable as any which the general surgeon had to meet. This principle was announced by Sir Spencer Wells, and until then the existence of peritonitis or pus in the abdomen, due to the existing tumor requiring operation, was regarded as a contra-indication; but guided by it, such conditions were to be regarded as indications for the performance of the operation. The application of this principle was illustrated by a case in the practice of the late Washington L. Atlee, and Sir Spencer, who was present, said, that "although it is not a favorable case, it is the duty of the operator to perform the operation." Dr. Barker thought that not a single person present at the operation expected that the patient would recover, but she did make a good and prompt recovery as soon as the source of irritation was removed.

Dr. Malcolm McLean spoke in favor of the primary operation for lacerated perineum, always using a soft suture like silk. He had not seen it do any harm, and in these days, at least, it gave moral support in a case of non-union.

Dr. H. J. Boldt entered his protest against the primary operation for laceration of the cervix during parturition, unless there was some urgent indication, like profuse hemorrhage, evidently due to the injury.

Dr. Polk, in reply to a question asked by Dr. Barker, said that his views regarding the primary operation for lacerated perineum coincided with Dr. McLean's, although there were many cases where the shock of the operation would be such as to make it unjustifiable to subject the patient to it. His rule had been to introduce a suture in most cases, and he always used the silk suture; indeed, he had abandoned the use of wire in all operations, whether primary or secondary.

Dr. Lee, in closing the discussion, said that it was his custom to perform the primary operation for lacerated perineum, using silk suture and perhaps two or three catgut sutures. He had not seen shock increased by the operation. Although he had seen cases in which he thought it inadvisable to do any operation, he thought that, in the great majority, the primary operation, if done properly, quickly, gently, and while the patient was under an anæsthetic, would not produce shock, nor would it increase the chances of the occurrence of septicæmia. So far, his cases had done well, but he had seen a great number of disastrous results which came from neglect to perform this simple operation.

The President announced that the following

AMENDMENT TO THE CONSTITUTION

had been adopted:

"The Academy may suspend or expel a Fellow for violation of its regulations, or the commission of any act which unfavorably affects the character of the medical profession or the interests of the Academy."

The Academy then adjourned.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Thirty-Seventh Annual Meeting, held in Williamsport, June 2, 3, and 4, 1886.

WEDNESDAY, JUNE 2D—FIRST DAY.

The Society was called to order by the President, Dr. E. A. Wood, of Pittsburg.

Dr. Helsby made the address of welcome, and as Chairman of the Committee on Credentials reported

A PROTEST AGAINST THE ADMISSION OF THE PHILADELPHIA DELEGATES.

The protest was signed by Drs. King and Taylor, who had made the minority report of the delegation to St. Louis. The protest had been referred to the Judicial Council, and following precedent rather than parliamentary usage, the delegates had been denied registration. Several motions referring to the matter were ruled out, and the president announced that the Judicial Council would report at 2 P.M.

Dr. Theophilus Parvin, President of the American Medical Association, was observed in the auditorium, and was invited to the stage.

Dr. Parrish offered a resolution

REAFFIRMING ADHERENCE TO THE CODE,

which was adopted.

Dr. H. H. Smith presented the

REPORT OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION,

and Dr. Mills presented a minority report, in which, referring to the exclusion of the Philadelphia delegation, he mentioned

THE NOTABLE ABSENCE OF DELEGATES FROM THE EAST AND NEW ENGLAND.

He said that meetings of the American Medical Association were never fairly representative; when held in one section

AFFAIRS WERE CONTROLLED BY A SECTIONAL VOTE.

At the St. Louis meeting the members generally did not understand the question, and every attempt to bring the matter before the meeting, so that they might do so, was shut out in a manner that was scarcely courteous. Both the majority and minority reports, of Drs. Smith and Mills, were accepted.

Dr. Edward Jackson, of Philadelphia, read a paper on the

RELATION OF EYE-STRAIN TO HEADACHE,

mentioning the frequency of such connection. Few persons have not felt it. The tendency of business and

amusement is to tax the eyes more heavily. He recited the history of cases showing how excessive accommodative effort is necessitated by the presence of hypermetropic astigmatism and other errors of refraction, and how the resulting headache is often relieved by correcting-glasses, duboisia, rest, etc. Eye-strain is not a sole cause, however, but one of several factors. It is an important one, because it can often be removed, and its removal gives relief. He mentioned other causes of eye-strain besides errors of refraction, as insufficiency of the recti, citing instances where the failure had even been with the upper and lower muscles.

THE CHAIRMAN ruled that the

PHILADELPHIA DELEGATES OF LAST YEAR SHOULD HOLD OVER

until the status of those of this year should be settled, which on appeal from the decision of the chair was affirmed. Dr. Dulles offered a resolution that the sense of the Society was that

DELEGATES SHOULD NOT BE DENIED REGISTRATION NOR RIGHTS PENDING JUDICIAL INVESTIGATION BY THE COUNCIL.

It was laid on the table amid much excitement, but was called up in the afternoon session and passed almost unanimously, on its abstract merits—it being then too late to affect the present question.

DR. TYSON, of Philadelphia, gave the report of the Committee on

COLLECTIVE INVESTIGATION.

The subject chosen had been Rheumatism. Ninety-one replies had been received. Little of importance had been elicited. The Committee was continued for another year.

CONTROLLING MEDICAL LICENSES.

DR. JACKSON, from the Committee on Education, reported a bill for presentation to the Legislature, to create a commission to control licence to practise medicine, the members to be nominated to the Governor by the medical profession, and to have no connection with colleges.

DR. H. C. WOOD eloquently supported this effort to obtain some control of medical education. Much discussion ensued, but a motion to indefinitely postpone was lost by an overwhelming majority, and the report was accepted, and referred to a committee of five to bring the bill before the Legislature.

DR. J. M. ANDERS, of Philadelphia, opened the afternoon session with a paper on

HYGIENE AND STATE MEDICINE,

comprehending the subjects of Isolation, Disinfection, Pure Drinking-water, and the formation of a Health Bureau, all as means of preventing contagion and infection. He commended the bill for the creation of a Health Bureau, now before Congress.

DR. DULLES, of Philadelphia, read a paper on

SOME RECENT ANNOUNCEMENTS OF PASTEUR ON HYDROPHOBIA.

Pasteur has claimed to have inoculated 950 cases, with 7 deaths, but hundreds of these cases announced as cures were bitten by dogs which were not mad.

DR. PANCOAST remarked that should some of these patients develop hydrophobia it would be

INTERESTING TO KNOW WHETHER IT ORIGINATED IN A BITE OR IN THE INOCULATION.

DR. MILLS doubted if we had many, or even *any*, authenticated cases of true hydrophobia in recent years. He had examined five cases, and made post-mortems in alleged cases, which proved to be other diseases, such as tetanus, epilepsy, etc. Dr. Mills considers the certificates which Pasteur requires, that the patient was bitten by a *mad* dog, worthless. He has found some thirty diseases which may be mistaken for hydrophobia.

AN ADDRESS ON LARYNGOLOGY

was made by DR. CHARLES E. SAJOUS, of Philadelphia. He said the laryngoscope is not often enough used by the general practitioner; without it he gropes in the dark. The necessary instruments are not numerous or expensive. By proper examination the practitioner can discriminate between laryngeal phthisis and syphilitic ulceration in a moment, and cure the latter promptly by the treatment which would be injurious in the former. In laryngeal phthisis feeding by the tube is often valuable, and cocaine is an important adjunct. Cocaine is not so valuable in hay fever as claimed. Dr. Sajous has only succeeded with it in forty per cent. of his cases. An overdose of cocaine can easily be given by spray; he had one patient who was threatened with asphyxia for six hours after using it. In some forms of catarrhal headache Dr. Sajous had found insufflation of morphia, grain one-eighth, on each side, and carried as high as possible in the nasal cavity, to give good results. In hypertrophic rhinitis, chromic acid fused on a probe had been effective.

DR. SOLOMON SOLIS-COHEN read a paper on

COMPRESSED AIR IN THE TREATMENT OF PULMONARY CONSUMPTION.

which he characterized as an old treatment, recently exploited under the name of "Pneumatic Differentiation," which, he said, dilated occluded alveoli, furnished a larger volume of air, increased the ventilation of the lungs, and exercised beneficial pressure on congested vessels. All this on the simple mechanical principle of greater pressure within than without.

THURSDAY, JUNE 3D—SECOND DAY.

The Judicial Council reported the

PROTEST AGAINST PHILADELPHIA DELEGATES NOT SUSTAINED.

The announcement was

RECEIVED WITH A ROUND OF APPLAUSE.

DR. CARPENTER, of Schuylkill, read an address on

MENTAL DISORDERS.

He said only twenty per cent. of insane patients sent to asylums recovered; that more could be cured by proper care. Enumerating causes of insanity he laid stress on our fast American life, the sensationalism of the press leading to insanity and crime, early addiction to tobacco and alcohol, the strain of political excitement, speculation, etc. The Society resolved to urge county societies to appoint committees to visit asylums to investigate the condition of insane patients, and see that they received proper treatment and had good sanitary environment.

DR. MURDOCK, of Pittsburg, read a paper on the

RELATIVE VALUE OF MANIPULATION IN THE REDUCTION OF HIP-JOINT LUXATION,

in which he indicated his preference for other methods. He mentioned a number of cases in which good surgeons had failed to reduce this dislocation by manipulation, and had succeeded by extension with the heel in the perineum.

DR. PACKARD read a paper on

SOME FURTHER CONSIDERATIONS ON TRACHEOTOMY.

He thought that tracheotomy will never become a "medical operation." It is often a difficult undertaking, requiring surgical skill. He sometimes omits anæsthetics when the child is already in a state of asphyxia. Chloroform is sometimes preferable to ether, and free incision is advisable. He prefers the high operation, and to have the thyroid isthmus drawn down by a blunt hook; he does not fix the trachea by a tenaculum, but if one be

used that having a double hook is preferable, as it admits incision between the prongs. A dilator or dressing-forceps should be used if time permits, so that the character of the excretion may be noted, and this should be swabbed out both above and below by clean, new sponges, held in bent forceps, and the sponges should then be destroyed. It is well to piece out the tapes with an elastic loop.

The simplest tubes are the best, and he prefers the single tube if cared for by a skilled attendant. Especially after the first few days the tube should be considered but a temporary expedient, and on the fourth or fifth day he tries the experiment of removing it. Topical medication should be commenced as soon as the first sleep passes off. Steam spray is valuable, and pulverized borax, alum, Condy's fluid, permanganate of potash, Labarraque's solution, etc., may be used. His experience with nitrate of silver has not been favorable; lime-water vapor is often overdone. A moist atmosphere at 70° or 75° is preferable to the exhausting higher temperatures. Tonics and suitable foods are important. After a few days he uses a tube with the back cut away, which permits more air-space in the trachea. The doctor then described "Intubation," but could find nothing in the method to recommend it.

Dr. H. L. Orth, of Dauphin County, read a paper on

THE TREATMENT OF INTRA-PERITONEAL HÆMATOCELE

by incision and drainage, with an illustrative case, which recovered, after incision from above, with drainage and antiseptic dressing.

Dr. A. G. Heyl, of Philadelphia, read a paper on

THE APPLICATION OF MOIST HEAT IN THE TREATMENT OF PURULENT OPHTHALMIA,

stating that this disease is a frequent cause of blindness, that it is important for the general practitioner to understand and treat it skilfully. It is caused by a micro-organism; he described the gonococcus of Neisser and the method of its propagation. The cylindrical epithelium of the palpebral conjunctiva is the culture-ground of the gonococcus; hence the utility of nitrate of silver applied to that part. He had found the application of very hot water, applied like a poultice on absorbent cotton, and renewed every quarter of a minute for five minutes, three times a day, very useful.

Dr. Randall thought a weak solution of bichloride of mercury was unsurpassed, and had been found unirritating.

Dr. Jackson confirmed these views.

Dr. A. S. Roberts, of Philadelphia, read a paper on

FLAT-FOOT, WITH DESCRIPTION OF THE MECHANISM OF A NEW PLANTAR SPRING FOR ITS RELIEF.

The elastic plantar spring was made of tempered steel, with a fan-shaped flange, elevated on the inner side of the foot, to maintain the perpendicular as well as the horizontal concavity of the arch of the foot. He sometimes combines the ordinary ankle support and other appliances with the spring.

A resolution was adopted to urge the treasurers of county societies to aid with the "sinews of war" the Washington Committee in preparing a worthy entertainment for the International Congress.

THE OFFICERS ELECTED FOR THE YEAR

are: Dr. R. Davis, of Wilkesbarre, President; Drs. Allport, Kirlin, McKibbon, and Lohman, Vice-Presidents; Dr. Benjamin Lee, Treasurer, and Dr. W. B. Atkinson was re-elected Permanent Secretary.

Dr. J. V. Shoemaker read the

ADDRESS IN MEDICINE,

covering a wide field, of which space permits mention only of the duty of the profession toward the amelioration of the sanitary environment of working females (factory employees and others), their food, etc., closing with a tribute to the genius and memory of Austin Flint.

MISCELLANEOUS PAPERS.

Dr. Traill Green contributed another paper on "Hydrophobia," and Dr. Enfield one on "The Mineral Waters of Bedford County."

Dr. W. F. Waugh, of Philadelphia, read a paper on

SOME RARE PSYCHIC SEQUENCES OF TYPHOID FEVER,

noting Pasteur's theory that the immunity conferred by an attack of zymotic disease is due to destruction of the principles which are capable of sustaining the life of that disease-germ. An objection to this is that persons are supposed to be as well after this destruction of their tissues as before it. Dr. Waugh calls this in question, especially in severe cases of typhoid fever. He believes that it is unusual for such attacks to leave the victims as well as previously. The main object of the paper was to call attention to the occurrence, sometimes, of radical change in the disposition or moral status of the individual, falling short of actual insanity. He detailed two cases; one where a lady developed a passion for purchasing, giving away the articles or throwing them down a well. There were no symptoms of insanity, but a remarkable degree of acumen. These cases, and others, were the result of long-continued attacks of typhoid, with persistent high temperature. The deductions made were to use antipyretics, and to prevent the patient returning to work too soon after such attacks.

The Society visited the Williamsport Hospital, and in the evening listened to a practical address of the retiring President, Dr. Wood, to whose ability and decision the harmony of what promised to be a stormy session was largely due.

The programme for the third day consisted of an "Address in Obstetrics," by Dr. R. Leonard, of Carbon; "Additional Causes of Subinvolution of Uterus," by Dr. T. V. Crandall, Philadelphia; "Puerperal Convulsions," by Dr. W. H. Parcels, of Mifflin; and "The Antagonistic Drugs to be Employed in Typhoid Fever," by Dr. A. Enfield, of Bedford; and at 10 A.M. an excursion to Watkins Glenn closed the session.

The next annual meeting will be held at Bedford, Pa., on the last Wednesday of June, 1887.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held in the Hall of the College of Physicians, Philadelphia, May 27, 28, and 29, 1886.

THURSDAY, MAY 27TH—FIRST DAY—MORNING SESSION.

The meeting was called to order at ten o'clock by the President, Dr. Harrison Allen, of Philadelphia.

After the calling of the roll the President delivered the annual address.

Following the presidential address a letter from the Secretary of the Philadelphia College of Physicians, tendering to the Association the use of the hall and the hospitalities of the College, was read.

Dr. Harrison Allen, of Philadelphia, read the first paper, entitled

TWO INSTANCES OF ADENOID DISEASE OF THE ROOF OF THE PHARYNX WHICH EXHIBITED UNUSUAL FEATURES.

The following cases were related as presenting certain points of interest.

Case I.—A. B——, aged five, much emaciated, without appetite, suffering with frequent attacks of indigestion, was sent to me in the latter part of January, 1884. Examination showed the roof of the mouth to be elevated, but the slightest attempt to depress the tongue was fol-

lowed by gagging. The nostrils were filled with a mucoid discharge, and a small quantity of a similar discharge was seen in the fauces after gagging. During the day the respiration was not exceedingly difficult, but at night it was greatly impeded. Almost directly after the child fell to sleep respiration became labored. After three or four inhalations breathing would cease, when it would open its mouth and make strenuous efforts to inspire. The child would then awaken and a forced inspiration ensue. It would then quickly fall to sleep and the same phenomena would recur, and in this manner the entire night would be passed. To these were occasionally added fits of crying and emesis. During an attack of whooping-cough the symptoms became much exaggerated, and were associated with irregular action of the heart.

Hypertrophy of the adenoid tissue of the pharynx, with unusual reflex phenomena, was diagnosed. On January 29th, with the patient under ether, the operation for the removal of this tissue was performed. An attempt was made to break down the tissue with the finger, but the presence of the latter arrested respiration. Efforts were then made to rasp the growth away with an instrument passed through the nose, but in a short time the patient showed symptoms of depression, and the operation was suspended. The pharynx was next seared with the hot wire. During the succeeding five weeks applications of iodine and glycerine were made, but there was no evident improvement in the breathing at night. The patient was again etherized and the pharynx shown to be empty. Suspecting that the tonsils might be the cause of the difficulty a portion of each one was excised. Still no improvement followed. A third attempt to detect the cause of the difficulty was made, and it was determined positively that the nostrils were patulous. A careful examination showed that during sleep the tongue fell backward, and that this was the essential condition. We then directed that when these attacks came on, the boy should be held with the face downward. The moment this position was assumed the child passed into a profound slumber. It was then so arranged that during the entire night the patient should be watched, so that the tongue should not have an opportunity of falling back. The boy prefers to lie upon his side, but when the attack comes on he turns on his face without awakening. He is now a strong and healthy boy.

CASE II.—A girl, aged six. The irritability of the pharynx was excessive. The patient had been twice operated on by other surgeons, and it was inferred that an attempt had been made to remove morbid tissue. The patient was etherized with great care, and the entire nasal pharynx found to be much smaller than normal, and its roof was highly arched in form. The posterior slope of the roof was the seat of an adenoid growth. This was removed.

The patient was improved and two weeks later she was again etherized, and it was ascertained that all the nodules had been removed, but that the membrane at the roof of the mouth was exceedingly thick and tended to obstruct the passage of air. This was subjected to cauterization in several places. No further efforts were made to reduce the size of the membrane by operation, and the patient was treated as a case of perverted nutrition of the osseous system. Iodine and glycerine were applied locally. Under this treatment gradual improvement in the nasal respiration took place, and at the present time the child appears to be perfectly recovered.

DR. FRANKLIN H. HOOPER, of Boston, described the following case of a little girl, eight years of age, of a neurotic temperament and very precocious. Nasal respiration had been obstructed, and articulation had been defective since the age of three years; hearing was also impaired. A large quantity of adenoid tissue was demonstrated. The removal of this was followed by great improvement in breathing and articulation. The breathing did not improve at once, but the use of the Politzer bag resulted in marked improvement. This had been previously tried without effect. From this time she began to grow nervous. Eight days after the restoration of hearing she complained that she could not keep still. In a short time symptoms of chorea developed, and gradually increased in intensity. The speech became affected, and for over a month she was unable to speak. The chorea assumed an exceedingly severe form. She was unable to sleep. Various remedies were tried without benefit. Finally urethran was suggested. The use of this drug was followed by quiet sleep. Since this time the child has continued to improve, and the chorea has now entirely disappeared.

DR. HARRISON ALLEN, of Philadelphia, remarked that Dr. Hooper's case was an evidence of the way in which the adenoid growths might affect the entire system. His case was noteworthy in view of the fact that the phenomena appeared after the removal of the growth.

DR. J. SOLIS-COHEN then presented to the Society a paper by PROFESSOR RAMON DE LA SOTA Y LASTRA, M.D., of Seville, Spain, which on invitation was read.

LUPUS OF THE THROAT.

In illustration of the difficulty of diagnosis the writer related the following: In 1884 I was consulted by a physician on account of an affection of the throat. The patient was much emaciated, reduced in strength, and with a clay-colored complexion. He was sixty years of age. The trouble with the throat had commenced one year previously. He was unable to take anything but milk and broths. The tongue was covered with psoriatic scales. The pharynx was lumpy and of a wine-red color. The right tonsil was the seat of an ulceration extending from the pyriform fossa below to the middle of the uvula, and involving half that structure. Its borders were red and swollen, its surface lumpy and irregular, and of a hard and elastic consistence. Some pain was produced by palpation, but no bleeding. There was no trouble while talking, or on coughing. Liquids were swallowed without difficulty. Breathing was accomplished with perfect freedom. The submaxillary glands were swollen. The patient had suffered from rheumatism, but no history of syphilis could be obtained. Taking into consideration the history of the case and the age of the patient, I considered it an ulcerated epithelioma. This was concurred in by the patient's physician. Nevertheless, mistrusting the testimony obtained, antisyphilitic medication with mercurials was tried. This occasioned such bad results that it was necessary to suspend it. He was then placed upon the use of iron and bitter tonics, and such diet as he could take. The specific treatment was subsequently resumed, but the local lesion assumed such a bad aspect that it became necessary to give up the treatment. From the fact that the ulceration was unattended by pain I began to have some doubts as to its epitheliomatous nature. I next prescribed sodium arsenite in ascending doses, with a gargle of resorcin, and the use of iodoform on the ulcerated surface after the latter was washed with a solution of borax. For a month the ulceration continued to extend, and when I had lost all hope it stopped its progress and became covered with healthy granulations. Cicatrization went on and was complete in three months. The scar is irregular, elevated and depressed, hard and soft, the posterior portion being adherent to the pharyngeal wall. The lingual psoriasis continued. Restoration to health has taken place. It is now eighteen months since the ulcer healed. With this result I concluded that the case was one of lupus.

My experience with this and other cases of lupus of the throat has led me to conclude that the disease may make its appearance at any period of life. I have seen it more frequently in adults than in children, and more frequently in men than in women. I have been unable to obtain any information in regard to inheritance. I have not found that hard drinkers or smokers were more liable to suffer, nor have I found that great exertion of the voice, or exposure to irritating substances, the ap-

plication of the cautery, or other agents, had any influence in its production.

I have never had an opportunity of observing the initial manifestations; but I have been able to detect the involvement of sound tissues later in the disease. Sometimes the mucous membrane assumes a purple color, and swells up and becomes granulated. Then one or two nodules may develop and may attain the size of a pea. Sometimes they become prominent without any alteration in the appearance of the mucous membrane. They may remain superficial, or they may attack the mucous tissue, and also the submucous tissue. Their form is rounded and their surface is smooth. These nodules are distinguished by their rosy red color from leprous tumors. Unlike carcinoma, the tumors are usually quite distinct. On pressure they present an elastic resistance. This is greater than the hardness of inflammation, but less than that of epithelioma. The parts on which the tumor develops become rigid, and the natural movement is diminished or lost, contrary to carcinoma, which usually produces sharp lancinating pain, and to leprosy, which is generally accompanied with anæsthesia; there is in lupus no alteration of the sensitiveness of the part. After a shorter or longer period the tubercle softens and becomes ulcerated. The ulceration assumes two forms. In some cases the tumor becomes excavated to a considerable depth, while in others it is more superficial. These ulcers do not bleed on pressure. The cure is difficult and attended with the formation of scars. In some cases these ulcers develop in a slow way, while in others they start with astonishing rapidity. They may develop within a few days, or they may remain quiescent for months or years, and then take on destructive action. The healing of the ulcer is followed by the formation of irregular scars, raised in some places, depressed in others; red in the former, white in the latter. Adhesions to different parts take place. Cicatrization takes place slowly, and is easily destroyed. Infiltration always remains.

All agree that the cure of lupus of the throat is more difficult than the same process in the skin. In the cases which I have seen the same treatment which I have employed in external lupus I have found of service in lupus of the throat. I do not despise internal treatment, but use such remedies as are indicated by the general condition of the patient. This has an important influence upon the result of topical treatment. If the lupus is not ulcerated I apply caustic substances. Until a few months ago I used tincture of iodine. I have, however, found good effects from the use of lactic acid. I have used it in cases of lupus of the cheek and gums, and also of the larynx. I have met with no inconvenience from its use, except the pain, which varies in different cases. If the lupus is ulcerated, I sometimes use the lactic acid; more frequently I employ a wash of borax and cover the ulcer with powder of iodoform. I always prescribe a gargle of a one per cent. solution of resorcin. Patients thus treated have always recovered after a greater or less time. In some cases the cure has probably been realized in the natural course of the disease, rather than as a result of the therapeutic measures.

Professor Joseph Leidy, of Philadelphia, on the invitation of the Council, made some remarks on

INTERESTING POINTS CONNECTED WITH THE LARYNX.

The first point to which I shall refer is the aperture of the larynx. This aperture, which communicates with the pharynx, is a large, oblique opening, bounded above by the summit of the epiglottis and laterally by the arytenoepiglottidean folds. The lower portion is formed by the notch of the arytenoid cartilages. Laterally on each side two eminences are quite prominent in the fresh larynx, an upper pair and a lower pair. The lower pair is produced by the carniculæ of the larynx which terminate the summits of the arytenoid cartilages. The text-books state that immediately above these there is another pair of cartilages. These are the cartilages of Wrisberg. I have rarely found these cartilages decidedly developed in the white subject. Where a prominence exists in the white subject, it is caused by a group of glands. Often in these a little cartilage may be found. In the negro the cartilages of Wrisberg are conspicuously developed. This point has also been referred to by European observers.

The next point refers to the vocal cords, as they are usually designated. While physiologically it is correct to speak of the vocal cords, yet anatomically it is not correct to speak of vocal cords. These bands are usually spoken of as the inferior thyro-arytenoid ligaments. There is another ligament extending between the thyroid and cricoid cartilage in front, and extending back to the base of the arytenoid cartilages. This is described as the middle crico-thyroid ligament. It is connected with the upper border of the vocal membranes. This connnection is very important. If the cricoid cartilage is broken or crushed, it must influence the action of the so-called vocal cords.

The vocal cords are influenced altogether by the muscles attached to the arytenoid cartilages. These are supplied by the inferior laryngeal nerve. Another muscle which may influence the movements of the vocal membranes is the crico-thyroid. This is supplied by a separate nerve, the superior laryngeal. Why this muscle should be supplied by a different nerve has not been satisfactorily explained. The muscles which operate the arytenoid cartilage are the posterior crico-arytenoid, the lateral crico-arytenoid, and the arytenoid muscle. These muscles are sufficient to produce all the movements of the vocal membranes. Other muscles, that is to say, the aryteno-epiglottidean and the thyro-epiglottidean muscles, have been described, but in my experience the development of these muscles is exceedingly uncertain.

A vote of thanks was tendered Professor Leidy for his communication.

Dr. J. Solis-Cohen, of Philadelphia, said that in regard to the cuneiform cartilages he had noticed that these were best developed in those who had the best control over their voice. The connection of the crico-thyroid membrane with the vocal cords was very interesting. There were two supposed paralyses of the larynx which presented exactly the same picture. One is the paralysis of the thyro-arytenoid muscle, giving the Indian-bow paralysis of the Germans. The other is paralysis of the crico-thyroid muscle, giving exactly the same appearance. The way to distinguish these paralyses is by placing the finger on the crico-thyroid membrane. If the membrane vibrates when the patient speaks, the crico-thyroid muscle is not paralyzed. In phonation the thyroid cartilage is fixed, and when the attempt to sound high notes is made the cricoid cartilage is drawn up by this muscle. The posterior crico-thyroid muscle, from its attachment, not only separates the vocal bands, but when they are made tense by other muscles its action is to increase their tension.

Dr. Joseph Leidy said he had never been able to see that the crico-thyroid muscle was related to the other muscles in the production of sound. He was glad to hear the explanation which had been given, which appeared to be a satisfactory one.

Dr. J. N. Mackenzie, of Baltimore, exhibited an instrument for fracturing the nasal septum.

Dr. Carl Seiler, of Philadelphia, exhibited an apparatus to be used in making sections of frozen heads.

Dr. C. E. Sajous, of Philadelphia, presented a galvano-cautery handle in which the wires were attached in the middle of the instrument, and both the wires and the electrodes were secured without the use of screws. The connections within the handle were made of copper, and heavier than usual, in order to diminish the resistance.

Dr. J. H. Hartman, of Baltimore, exhibited a form of

écraseur with extremities of different shapes, which could be used for various purposes.

THE PRESIDENT announced the following as the Nominating Committee: Dr. T. R. French, of Brooklyn, Dr. F. I. Knight, of Boston, and Dr. G. W. Major, of Montreal.

Adjourned.

AFTERNOON SESSION.

The first paper, by DR. F. H. HOOPER, of Boston, was entitled

CONCERNING THE POSITIONS OF PARALYZED VOCAL BANDS.

The paper was in part based on experimental work done in the Physiological Laboratory of the Harvard Medical School, and in part theoretical. Specimens and drawings illustrating certain points were shown. The reader stated that it was his purpose to inquire into certain influences which might combine to determine the positions of paralyzed vocal bands, and to ask whether we are always justified in assuming that a given position of immobile vocal band was indicative of the arrested function of this or that muscle of the intrinsic laryngeal groups. The speaker thought that a vocal band might assume different positions in cases of complete paralysis of the recurrent nerve, and he passed in review certain anatomical factors and physical causes which he thought might contribute toward producing the position which might happen to be present when seen reflected in the laryngeal mirror.

Dr. Hooper concluded by saying that in his judgment the larynx is such a complicated organ anatomically, it is subject to such changes at different stages of life, its shape is so different in different individuals, its nerve-supply is so great, the arrangement of its muscles so liable to anomalies, that, as surely as one attempts to formulate theories on the positions alone of paralyzed vocal bands—positions which may be controlled by intrinsic muscles of the larynx that are not paralyzed, as well as by those that are—just so surely will one be led unconsciously into erroneous mental inferences.

The next paper was by DR. J. SOLIS-COHEN, of Philadelphia, and related

THE FURTHER HISTORY OF A CASE OF PARALYSIS OF THE POSTERIOR CRICO-ARYTENOID MUSCLES,

presented at the first meeting of the Association in 1879, with a report of the autopsy and the exhibition of a specimen. The history of the case was briefly given as follows:

A man, aged forty-eight, was brought to me with a history that for two years he had suffered from occasional spasm of the larynx, so that, on at least two occasions, he had fallen unconscious in the street. When a boy he had suppurative inflammation of the left ear, and ever since then the introduction of the finger into the ear would produce spasm of the glottis. On examination with the mirror, I found what we then considered to be the picture of paralysis of the left posterior crico-arytenoid muscle. The examination produced spasm on the other side. The patient was directed to carry with him nitrite of amyl, to be used when the attacks came on. This he did for a while with good results. He subsequently returned with the statement that the day before he had had a severe spasm from tickling in the ear. While illustrating this he had a violent attack in the office, requiring the use of chloroform to relieve it. The next day tracheotomy was performed. No other lesion could be found at that time. The spasms were still produced by irritation of the ear. Five or six weeks later he began to have paralysis of the right vocal band. The picture then became extreme, and after this time I never saw the larynx in any other position. The man gradually became blind, and developed other symptoms of locomotor ataxia. During the four years preceding his death I did not see him, but during this time he continued to wear the tube. He was able to speak well without occluding the tube.

At the autopsy all the parts that could be available in the examination were removed and submitted to Dr. William Osler for examination. No abnormal appearance was discovered in the brain. The optic nerve was small, grayish-white, and atrophied. Many microscopical sections were made of various parts. The left recurrent nerve seemed natural, although it will be remembered that the left cord was the first affected. The right recurrent showed a distinct line of demarcation between the healthy and the unhealthy fibres. Instead of the right muscle being atrophied, it was the left muscl which had undergone wasting.

DR. FRANK DONALDSON, JR., of Baltimore, read a paper on

THE FUNCTIONS OF THE RECURRENT LARYNGEAL NERVE, FROM AN EXPERIMENTAL STUDY IN JOHNS HOPKINS UNIVERSITY.

The speaker first referred to the fact that all the muscles, with the exception of the crico-thyroid, are supplied by the recurrent laryngeal nerve. The nerve, therefore, contains fibres controlling both phonation and respiration, acting both upon the abductor and upon the adductor muscles. He then referred to the experiments performed by Dr. Hooper, of Boston, the results of which had been presented at the last meeting of the Association. Dr. Hooper had found that the constrictors cease to act when consciousness was suspended by the action of ether, and that abduction with dilatation of glottis was obtained by stimulating the recurrent laryngeal nerve when consciousness was suspended. Dr. Donaldson's experiments were made to test the correctness of these results. In five experiments under states of deep narcosis, slight narcosis, and almost complete consciousness, he invariably got adduction of the vocal bands under the application of stimuli with the induction coil at ten. In one case in which consciousness had been suspended under slight stimulation abduction was produced, while under strong stimulation adduction was obtained. It was then found that abduction was always produced when weak currents were employed, but adduction was obtained when stronger stimuli were used. He therefore concluded that the constrictors did not cease to act during profound narcosis or in suspension of consciousness from any cause, and that abduction is not always obtained when consciousness is suspended; it is with weak currents that abduction is produced, but as the stimulation is increased adduction takes place.

DR. F. I. KNIGHT, of Boston, said that even if a certain unanimity of opinion is reached, we shall have to adapt these results to the case of man by clinical and pathological observation.

In regard to abductor paralysis he thought that the whole question should be decided upon the position of the vocal process, without any reference to the cord. If the vocal process is found in the median line, it is fair to assume that for some reason the function of the abductor muscle has been abolished. A good deal of difficulty has been experienced by observers in determining when the vocal process is in the median line. To him the crucial test is by phonation. If you get a vertical glottis on phonation, without any movement on suspected cord, you have a sure case.

DR. S. SOLIS-COHEN, of Philadelphia, said that it was important to distinguish between the automatic (respiration), the reflex (cough), and the psychic (phonation) functions of the larynx. A well-known physiological law is that the resistance which a nerve offers to the transmission of nervous force is inversely as the use made of the muscle which it innervates. No muscle is used more than the abductors of the larynx. The resistance of their nerves would, *a priori*, then, be supposed to be the least, and Dr. Donaldson's experiments show that they respond to a weak stimulus.

Dr. F. I. Knight, of Boston, read a paper entitled

LARYNGEAL VERTIGO.

The writer had been able to find fourteen published cases of laryngeal vertigo. To these he added two coming under his own observation.

The following points were obtained from a study of the reported cases: All the cases with the exception of one have been in males. The average at which the attack has occurred has been forty-seven and a half years. The cough which induced the attack was slight in six cases, spasmodic in two, and severe in three. Momentary loss of consciousness occurred in fourteen cases. One case fell, but declared that he had not lost consciousness. Dizziness is mentioned in eleven cases. In four cases there seems to have been decided evidence of laryngeal spasm; in one this was doubtful. In four cases there was marked congestion of the head and face. In two the patients were pale. Convulsive movements of the limbs occurred in three cases; in one the movements affected the face and head, and in another the face. In these cases there was no biting of the tongue, no frothing of the mouth, and no involuntary micturition. The speaker objected to the term laryngeal vertigo. There probably is no real vertigo in these cases in the sense of the vertigo seen in aural vertigo. There is simply giddiness or lightness of the head. These cases cannot be considered to be instances of *petit mal*.

The cause of the attacks is disturbance of the cerebral circulation, perhaps due to the compression of the large blood-vessels of the chest and perhaps the heart. Even without this, the effect of rapid breathing is well known. This causes marked cerebral disturbance.

A paper by Dr. Frank Donaldson, of Baltimore, on

A CASE OF CONGENITAL DEFECT OF THE EPIGLOTTIS, ILLUSTRATING A FUNCTION IN DIGESTION,

was read by title.

Dr. D. Bryson Delavan, of New York, read a paper on

BUCCAL TUBERCULOSIS.

He had seen six cases of this affection. In the reports of twenty-four cases of tuberculosis of the tongue, in all but one the subjects were males. In twelve cases the lesion was anterior, in seven upon the side, and in one at the base of the tongue. In four the situation was not stated. The disease was primary in nine cases, secondary in seven cases. In the remaining cases it was not stated whether the disease was primary or secondary. The longest duration of a case of primary tuberculosis was two and a half years, the shortest ten weeks. The age of the oldest person affected was seventy years, and of the youngest not under twelve.

Six cases coming under the speaker's observation were given in detail. A point of interest in the first case was that this is the first case on record in which removal of the tongue has been followed by an apparent cure of tubercle. Sufficient time has not elapsed to speak positively as to the ultimate result. The operation was done in the latter part of December, 1885.

Dr. E. L. Shurley, of Detroit, thought that in these cases of so-called primary tuberculosis mistakes of diagnosis are sometimes made. He was not sure that the bacillus can be regarded as an absolute evidence that the disease is tubercle; in one case considered to be a case of tubercle of the larynx, and in which the tubercle bacillus was found, the patient recovered and is still living, five or six years later.

Dr. J. O. Roe, of Rochester, reported two cases of primary tubercle of the pharynx. The first case was that of a lady thirty-five years of age. Six months before coming under observation she suffered great pain in the throat. A well-marked lesion was found above the border of the epiglottis and at the base of the tongue. This improved under local treatment. Subsequently the ulceration returned, the patient ran down in health and died. The larynx was entirely free from ulceration. The second case was a gentleman forty-five years of age, who had tuberculous ulceration of the pillars of the fauces. Later ulceration of the larynx developed. Under the persistent application of iodide of amyl, continued for some time, the patient recovered and is still well, weighing two hundred and twenty-five pounds.

Adjourned.

Friday, May 28th—Second Day—Morning Session.

At ten o'clock the Executive Session was held, and the following business was transacted.

The following officers were elected:

President—Dr. E. Fletcher Ingals, Chicago.

First Vice-President—Dr. E. Carroll Morgan, Washington.

Second Vice-President—Dr. J. N. Mackenzie, Baltimore.

Secretary and Treasurer—Dr. D. Bryson Delavan, New York.

Additional Member of the Council—Dr. F. H. Hooper, Boston.

The following active members were elected: Benjamin F. Westbrook, of Brooklyn; Frank Donaldson, Jr., of Baltimore; Alexander W. MacCoy, of Philadelphia, and J. C. Mulhall, of St. Louis.

Professor Ramon de la Sota y Lastra, of Seville, Spain, was elected a corresponding fellow.

A proposition was presented with reference to the formation of a congress of American physicians and surgeons. The proposition was approved and the following committee, taken from the ex-presidents of the Society, was appointed to confer with committees from other societies: Dr. J. Solis-Cohen, Philadelphia; Dr. G. M. Lefferts, New York; Dr. F. I. Knight, Boston; Dr. F. M. Bosworth, New York, and Dr. E. L. Shurley, of Detroit.

It was decided to hold the next meeting in New York, the time to be determined by the Council.

The first paper was by Dr. E. L. Shurley of Detroit, giving observations

ON THE USE OF SOME OF THE NEWER REMEDIES IN DISEASES OF THE UPPER AIR-PASSAGES.

The speaker took up in detail some of the numerous new remedies, and gave the result of his experience in their use.

Dr. William H. Daly, of Pittsburg, read a paper on

THE SIMPLEST AND MOST EFFICIENT TREATMENT OF DIPHTHERIA.

The speaker stated that his object was to describe the calomel treatment.

The credit of practising and recommending this treatment in modern times belongs to Dr. William C. Ritter, of Pittsburg. Of the different forms of mercury, calomel is the best. The drug is to be given in doses of from two to five grains every one, two, or three hours. It may be given dry and washed down with a little ice-water, or it may be given in water. This is to be continued until the stools become frequent and contain in them gelatinous masses of a bright-green color, resembling chopped spinach. Then the interval is to be lengthened and the drug continued so as to keep up this condition of catharsis, the patient having two or three stools each day. It is better to lengthen the interval than to diminish the dose. In this way there is less liability to induce ptyalism. Very little depression follows these large and frequently repeated doses. Ptyalism does not often occur. Under this treatment the membrane exfoliates and reforms, if at all, with less readiness; the fever diminishes. The diet is to be of a light, nutritious character. The speaker had found it the most efficient of any treatment which he had employed, and was the simplest to use. The cardinal rule in the treatment is to give the calomel

until the condition of catharsis described has been produced. Under this method a greater number of cases will be saved than under any other proposed method.

Dr. E. L. Shurley, of Detroit, admitted that the internal administration of calomel is one of the most efficient remedies for croupous inflammation, but in regard to its efficiency in the treatment of diphtheria he did not agree.

Dr. Donaldson, of Baltimore, had seen the calomel treatment frequently tried, but without success.

Dr. Beverley Robinson, of New York, said that there was scarcely a remedy which had not at some time been recommended as a specific for diphtheria. Calomel has been thoroughly used, and finally given up because it did not accomplish what was proposed. He was convinced that epidemics of diphtheria, as of other infectious diseases, differ very much in virulency, and a remedy which is successful in one epidemic will entirely fail in another.

Dr. F. H. Bosworth, of New York, said that mercury possesses a specific value in the treatment of diphtheria. Diphtheria is a blood-poison which often kills by its toxic effect, but in a greater majority of cases it kills by leading to the development of croup. The affection of the larynx is not diphtheria, but a sequent disease. While mercury has no effect upon diphtheria, it has a specific effect in arresting the disease in the larynx called croup.

Dr. William H. Daly said that he did not recommend calomel as a specific. He simply stated that he had had a greater proportion of successes under this plan of treatment than under any other which he had tried.

Dr. E. Carroll Morgan, of Washington, read a paper on

THE QUESTION OF HEMORRHAGE AFTER UVULOTOMY,

with the description of an instrument for its arrest, and described the following case: A man, aged twenty-eight, whose uvula had been excised five days previously by another operator, came to him with the statement that the bleeding came on four hours after the operation, and had continued at intervals since then, a large quantity of blood having been lost. Various means had been tried to stop the bleeding without success. The parts were governed with a coagulum of the persulphate of iron. This was removed and the parts cleansed. The bleeding points were then seen. The uvula had evidently been greatly hypertrophied. The scissors had been used in the operation. There was no evidence of the hemorrhagic diathesis in this patient or in any member of the family. The parts being cleaned, the stump was seized with dressing-forceps and the hemorrhage was controlled. The galvano-cautery was applied and the bleeding stopped. In nine hours it recurred. The cautery was again used, and the stump dusted with the persulphate of iron. The following morning a copious hemorrhage took place, not less than a drachm a minute, by actual measurement, being lost. A careful examination was then made to detect any other source of hemorrhage, but none could be found. Chromic acid was then used and the hemorrhage stopped. At three o'clock the same day copious bleeding recommenced. Galvano-cautery again employed. There was not room for the application of a ligature. Torsion was tried without success. A small clamp used in retaining shirt-sleeves in position was then taken, the spring weakened, the teeth filed down, and was then applied. A string was attached to this and brought out of the mouth. This checked the bleeding and was allowed to remain for several hours. It was then removed and the bleeding did not recur. A search of the literature of the subject failed to show any instance in which such a procedure had been before adopted. In this case he thought that this device had saved the patient's life.

A careful study of the subject had enabled him to find seventeen other cases in which the hemorrhage after this operation had been profuse. Death has never resulted directly from the hemorrhage after uvulotomy. Where the bleeding is persistent, it is always arterial in character.

The speaker, in conclusion, said that a fatal hemorrhage had never followed uvulotomy. A persistent, alarming hemorrhage is only encountered in the rarest instances. A moderate bleeding, stopping spontaneously or by the use of the mildest applications, occasionally happens. A loss of a few drops of blood at the time of operating, followed by a slight oozing, is a common occurrence.

The most reliable surgical measures for controlling uvular hemorrhage are ligature, compression by a clamp or forceps, and the use of the actual cautery. The most reliable styptics are, in the order named, solid nitrate of silver, persulphate of iron, gallic acid, tannic acid, alum, the local use of ice, and vinegar. The most reliable systemic remedies are opium, acetate of lead, sulphuric acid, and ergot. To the paper was appended an exhaustive bibliography. The speaker recommended that in operating the object should be to restore the uvula as nearly as possible to its normal size, and that the entire uvula should not be removed.

Afternoon Session.

Dr. Thomas R. French, of Brooklyn, read a paper on

THE LARYNGEAL IMAGE AS SEEN IN PHOTOGRAPHS TAKEN DURING THE PRODUCTION OF TONES IN THE SINGING VOICE.

The speaker had made numerous investigations on this subject, and his observations failed to confirm the statements of most authorities in regard to the position of the vocal cords during the production of different notes. Different individuals evidently use different mechanisms in the production of different tones. The general result of his investigations seemed to indicate that in the production of low notes the vocal cords are separated to a greater extent posteriorly than anteriorly. In the production of the middle tones the vocal cords are parallel, and in the production of high notes the opening is widest in front.

The paper was illustrated by numerous photographs thrown upon the screen. The following papers were then read by title: "Clinical Notes on Prolapse of the Laryngeal Ventricles," by George W. Major, of Montreal; "Three Cases of Thyrotomy, Recovery in each Case with Good Voice," by Dr. Clinton Wagner, of New York; "Alarming Hemorrhage after Tonsillar Excision, arrested by Torsion of the Artery," by the same author.

Dr. William C. Jarvis, of New York, described

A NOVEL PROCEDURE FOR THE REMOVAL OF SUBGLOTTIC LARYNGEAL GROWTHS.

J. C——, aged thirty-five, consulted me on March 22, 1883, for the relief of a difficulty of speech and of breathing. The trouble with the voice was noticed two years before; the difficulty in speech appeared one year before coming under observation. The laryngoscope showed a mass of papillomatous tissue occupying the cavity of the larynx. The vocal cords and ventricular bands were not involved. The attempt was made to seize them during phonation with the Mackenzie forceps. Only a few pieces were removed. The écraseur was then tried, but it was found impossible to use this instrument on account of the wire being seized by the spasmodic contraction of the vocal bands and displaced. Chromic-acid applications were now tried, but although the growth was touched, it was found impossible to limit the application to the diseased structures. The patient disappeared, and did not return for a year. His condition was much worse, and the difficulty of breathing greatly increased.

I then determined to try the following plan, and if this

failed, to remove the growth through an opening in the windpipe. Forceps similar to the Mackenzie instrument, but heavier, was secured. Through the tips of the blades holes were drilled, and through these was passed a piece of No. 00 piano wire, which was conducted through a second opening at the angle of the blades and out to the handles, where it terminated in a loop, into which the extremity of the index-finger could be placed. When the blades were separated this wire formed a cross-bar uniting their extremities. When the blades were closed the loop of wire could be drawn up by the finger. The operation was performed without an anæsthetic. The tongue was depressed, and with the aid of the mirror the forceps were introduced into the cavity of the larynx. The mirror was then removed, and the forceps carried down to the glottis, through which the tip of the instrument was forced with considerable trouble on account of the spasm. The instrument was carried into the trachea sufficiently far to be sure that it was below the attachment of the growth. The blades were then separated, and pressing against the anterior wall of the larynx, the instrument was gradually raised until the wire was caught. The blades were then closed and clamped, the loop of wire drawn in, and the forceps removed, bringing with it a growth. The laryngoscope showed a second growth, which was removed in the same way. Breathing was at once rendered easy, and the speech became natural. The patient said that the presence of the forceps caused no pain. This is the only case on record of the removal of a subglottic tumor without anæsthetization, and without an opening into the larynx.

Dr. T. Amory de Blois, of Boston, read a paper on

CASES OF LARYNGEAL ŒDEMA.

The author gave brief details of fourteen cases of laryngeal œdema coming under his observation. All of these cases recovered; six under the use of astringents and eight after scarification.

Dr. Frank Donaldson, of Baltimore, suggested that in these cases intubation of the larynx after the O'Dwyer method might be applicable.

A paper by Dr. Charles H. Knight, of New York, describing a case of perichondritis of the larynx, was read by title.

Dr. Edgar Holden, M.D., of Newark, described

A CASE OF GUMMATOUS DISEASE OF THE LARYNX, WITH SPONTANEOUS REOPENING OF THE LARYNX AFTER THYROID LARYNGOTOMY.

L. D——, aged thirty-five, presented himself May 20, 1885, with dyspnœa and aphonia. Examination showed a cicatrix on the epiglottis, and the left side of the larynx presented a rounded mass of dull appearance. He denied syphilitic infection. After a careful consideration of the case the probabilities were thought to favor syphilis, and he was given iodide of potassium in large doses. There was improvement for a short time, but he soon became intolerant to the drug. Thyroid laryngotomy was considered necessary and was performed. The tumor was removed with the écraseur; no ulceration was visible. Tracheotomy was then performed, and the upper incision closed with sutures. The patient did well, and the tube was removed on the tenth day. The external wound healed. He insisted on returning to his home, where the surroundings were very unfavorable, and his health deteriorated. On the fortieth day after the healing of the wound the laryngeal incision was torn open by a severe cough. He refused to return to the hospital. Examination of the larynx showed no disease. Under the surroundings it was impossible to get the wound to heal. His health continued to run down, and six months and fourteen days after the operation the patient died of exhaustion. The patient had lived five months with an opening in the larynx.

Dr. U. G. Hitchcock, of New York, read a paper on

GUMMATOUS INFILTRATION OF THE BASE OF THE TONGUE,

giving the details of four cases coming under his observation. In none of these cases was the fibrous septum the exclusive seat of the disease, and in three cases the deposit did not approach this structure. In these cases the degree of dysphagia was in direct proportion to the proximity of the deposit to the base of the tongue.

Adjourned.

Saturday, May 29th—Third Day—Morning Session

A paper on a case of hysterical sneezing, apparently cured by applications to the nasal passages of the continuous battery current, by Dr. S. Solis-Cohen, of Philadelphia, was read by title.

Dr. John N. Mackenzie, of Baltimore, read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY AND TREATMENT OF THE RESPIRATORY VASO-MOTOR NEUROSES.

These probably depend upon some form of sympathetic or vaso-motor irritation. In the production of such conditions two elements enter—a depraved state of the nerve-centres, and an abnormal excitability of certain portions of the naso-bronchial tract.

After a *résumé* of the pathological questions involved the subject of treatment was taken up.

In the treatment of hay fever the chief indications are to remove any existing local respiratory disease, to so alter the nutrition of the nerve-centres that they may not respond so easily to irritation, and to carefully search for pathological conditions and adopt appropriate treatment for their removal when found.

These chronic neuroses require long treatment. The peculiarity of the sympathetic is with the patient all the time, by night and by day, and at any moment may give evidence of its presence by a paroxysm. Any treatment which is practised simply during the attack or immediately before is simply palliative. In reference to the use of cocaine, he had found that it increased the irritability of these structures, and its application to the erectile tissue may ultimately weaken the cell-walls. He, however, did not question the excellent virtues of this remedy in certain acute affections. In hay fever he had failed to find improvement after its use. For a short time amelioration was produced, but in the course of an hour the symptoms recurred. His custom is to treat hay fever as any other chronic disease of the nervous system. He insisted upon a prolonged tonic course of treatment during the intervals. This may at first fail, but if persisted in, the time will come when, if there is no incurable lesion, the paroxysms will diminish in severity and frequency. The great mistake is made in the suspension of the treatment upon the termination of the attack. Among the remedies for the constitutional management of this class of cases he recommended phosphide of zinc, quinine, and nux vomica. These may be given in combination in the following proportions:

℞. Zinci phosphide ..... gr. $\frac{1}{16}$.
Quiniæ sulphat ..... gr. ij.
Ex. nucis vomicæ ..... gr. $\frac{1}{4}$.
Sig.—To be taken before meals.

After meals he directs that from three to five drops of liquor arsenici et hydrargyri iodidi be taken in a wineglassful of water. A similar line of treatment had been employed for several years by the speaker, in simple inflammatory conditions of the nose and throat, with good results. He had also employed bromide of potassium with advantage. A constant current of from ten to fifteen cells, with one pole over the nape of the neck and the other over the region of the superior cervical ganglia or in the nasal passage, had in a few cases been beneficial. In one case improvement followed the obliteration of vessels on the posterior wall of the pharynx.

In regard to topical applications to the existing nasal conditions, these accomplish one result only. They close one door to irritation of the nerve-centres. In many cases this is of itself sufficient. There are other cases in which such a course will fail. In these neuroses we cannot expect to thoroughly eradicate the disease until the sympathetic nerve irritation is overcome.

Dr. William H. Daly, of Pittsburg, said that the iodide of sodium has given him better results than any other single remedy. In all cases of this kind the upper air-passages should be carefully examined, and upon the slightest suspicion of local disease the condition should be remedied.

Dr. E. Carroll Morgan, of Washington, remarked that in considering these cases of hay fever he had been struck with the apparent immunity from this affection experienced by those suffering with anosmia.

He asked the experience of the Fellows in regard to the efficacy of the galvano-cautery treatment as a preventive or a cure for hay fever.

Dr. C. E. Sajous, of Philadelphia, stated that in the early part of his experience with the galvano-cautery he had a number of favorable cases. Last year he met with a number of unsatisfactory cases. What it depended on he did not know. Although all the cases were benefited, absolute relief followed in less than forty-five per cent. Some of the cases treated two years ago, and which escaped the attack the following year, had a recurrence last year. Some of the cases have entirely escaped. One case treated in 1881 with glacial acetic acid has had no recurrence.

Dr. Carl Seiler, of Philadelphia, thought the failures of the treatment of hay fever might be explained by the suggestion thrown out in the paper read, that the Schneiderian membrane is not the only source of irritation of the vaso-motor nerves. The source of irritation may be situated in the pharynx or in the larynx. If the case does not yield to treatment of the nasal membrane we should look further.

Dr. Samuel Johnston, of Baltimore, read a paper entitled

A CASE OF NASO-PHARYNGEAL GROWTH.

A child was brought to him on account of difficulty in breathing through one nostril. Examination showed that there was a tumor filling up the posterior part of the right nostril. After a short preliminary treatment the attempt was made to remove the growth with the écraseur. A spray of a four per cent. solution of cocaine was employed. A cord was first passed through the nostril and brought out of the mouth, so that, if necessary, the nostril could be plugged without delay. The wire of the écraseur was applied without difficulty. When the growth had been cut through about two-thirds, the shaft of the instrument broke, leaving the wire and about three-fourths of an inch of the instrument attached to the growth. An attempt was made to apply a second écraseur, but this failed. After trying to remove the portion of instrument broken off, it was decided to wait a short time and allow the growth to slough off. Four days later the attempt to apply an écraseur was again made, and succeeded without difficulty. The tumor measured one inch and a half in diameter, and was fibroid in character.

Dr. C. C. Rice, of New York, read a paper on the question

WHAT CASES OF NASAL CATARRH REQUIRE SURGICAL TREATMENT?

Almost every nasal chamber will exhibit irregularities and abnormalities of some kind. The introduction of more improved methods of determining the locality of inflammation has led to a more frequent resort to surgical measures. With the galvano-cautery almost any effect from a slight stimulation to destruction of tissue can be obtained. Those who condemn this instrument should state what use of it they object to. Not every case of anterior hypertrophy should be operated upon. The erectile tissue in this situation serves a valuable physiological function in swelling up and excluding irritating particles from the lungs. In determining whether or not an operation is required, the sensations of the patient should be taken into consideration with the results of the examination. If, after the use of a four per cent. solution of cocaine, sufficient hypertrophy to interfere with breathing is still apparent it should be removed.

Dr. F. H. Bosworth, of New York, thought that the so-called erectile tissue is not a true erectile tissue. There is no physiological function observed by its swelling up.

He also states that all persons will present abnormalities of the nose. He thought it a mistake to suppose that we have morbid conditions in every nose. The healthy nasal cavities present a typical appearance.

Dr. J. N. Mackenzie, of Baltimore, said that the microscope shows that the erectile tissue of the nose corresponds with the erectile tissue in other portions of the body. He believed that these bodies serve the physiological purpose of excluding irritating bodies from the lower respiratory tract. Experiments with horses driven through a cloud of dust have shown that while the anterior portion of the nose was filled with dust none passed into the larynx.

The President remarked that in man the nasal chambers are exceedingly degenerate. There is no animal in which the nose is so small in comparison with the rest of the face as in man. It is well known that structures which are passing through a process of degeneration are exceedingly variable. So it is with the human nasal chambers.

Remembering this fact, we come to another of great interest, that all animals with short faces, as the rabbit and cat, have on the nasal septum erectile bodies. He held that the object of these bodies was obstructive, and that by swelling up they protected the portions behind. If that is the case I do not see why we cannot claim that erectile tissue exists in man. It is my opinion that erectile tissue does exist, and is protective and obstructive.

The following papers were read by title: "Inflammation of the Antrum," by Dr. Beverley Robinson, of New York; "Additional Notes on a Case of Erysipelas of the Larynx," by William Porter, M.D., of St. Louis.

A vote of thanks was tendered the Philadelphia College of Physicians, the Union League Club, the University Club, and the managers of the Pennsylvania Hospital for courtesies extended.

The Association then adjourned.

The Rhythm of Fever.—Dr. P. D. Carpenter, of Pittsford, writes: "In your comments on the 'Rhythm of Fever,' in The Medical Record of March 20th, you say: 'Our correspondent forgets that in a chill both the temperature of the body and the heat-production are increased, though heat excretion is temporarily lessened.' In the latter part of the paper that I sent you, there was a quotation from an editorial in The Record, which says: 'There may be a fever, viz., its essential symptom, elevated temperature, when the actual heat-production is less than normal, provided heat-dissipation is also at the same time less.' In a chill the heat-dissipation is certainly lessened, and if heat-production were not also lessened, it seems to me that the accumulation of heat would be so great as to be incompatible with life, as perhaps may occur in fatal cases of 'congestive chill.' I think your objection loses its force when placed by the side of the quotation I have made from you."

Antipyrin in Phthisis.—Dr. Hoedmaker, of Davos Platz, has made numerous observations of the effect of antipyrin on patients with phthisis, and comes to the conclusion that they are more comfortable without it, although it certainly reduces the fever. He states that he has found salicylic acid, especially when combined with arsenic, of the greatest utility in the disease.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SYPHILITIC PACHYMENINGITIS AND PERIPHERAL NEURITIS —DISTILLED WATER AS A SOLVENT OF RENAL CALCULI — THE ALBUMENS OF THE URINE — DIPLOMAS IN SANITARY SCIENCE — HOSPITAL ACCOMMODATION FOR JEWISH PATIENTS.

LONDON, May 24, 1886.

AT the last meeting of the Pathological Society, Dr. Hale White showed some specimens of peripheral neuritis and syphilitic meningitis which presented some features of interest. They were taken from a woman, fifty-two years of age, who had been a hard drinker in addition to suffering from syphilis. For some months she had had occasional right-sided attacks of convulsions. When admitted into Guy's Hospital the patient seemed partly demented. The right arm was wasted, rigid, and contracted, and the right leg similarly affected, though in a less degree. A few days after admission the patient was attacked with right-sided epileptic seizures. In the course of seven hours no fewer than sixty-three attacks occurred. The face was affected and the patient was unconscious. The temperature rose to 103°, and the patient died eighteen hours after the last fit. Post-mortem, syphilitic ostitis of the back part of the frontal bone on the left side was found, and, adjoining this, characteristically syphilitic pachymeningitis, composed partly of fibrous tissue and partly of gumma. The digital nerves showed the changes described by recent workers as occurring in peripheral neuritis. The fibrous sheath round the nerve was thickened and sent in septa between the nerve-fibres. The latter were much degenerated, and in many no axis cylinder was to be found, all that could be seen being the granular material into which the white substance of Schwann had become converted.

At a recent meeting of the Clinical Society Mr. Pick, of St. George's Hospital, related a case which showed in a very striking manner the benefit to be obtained in some cases of renal calculus by the "distilled-water treatment." The patient was a man, aged forty-five, who, when first seen by Mr. Pick, was suffering from renal colic. From the symptoms and signs Mr. Pick was able to diagnose atrophy or absence of the opposite kidney, and the former condition was found at the autopsy. The patient was ordered to drink half a gallon of distilled water daily. After a week of this regimen he was suddenly seized with an intense desire to micturate, and passed nearly a gallon of urine in a very short time, and with it three small calculi. His symptoms were at once relieved, and in a week or two he expressed himself as feeling well. He remained so for a year, and then, after two attacks of renal colic, had suppression of urine, and died in six days. Although the ultimate issue was a fatal one, the marked and lasting (for a year) relief following the copious imbibition of distilled water was, to say the least, very noteworthy, and should encourage further trials of that mode of treatment.

At the last meeting of the Harveian Society a paper on "The Albumens of the Urine" was read by Dr. Robert Maguire. Some novel ideas were put forward. Hitherto serum-albumin has been regarded not only as the most important, but also as the most frequent form of albumin occurring in the urine. Dr. Maguire, however, has found globulin to occur far more frequently than has been thought. He has found it frequently in albuminous urine, both alone and together with serum-albumin. When the two occur together he thinks the amount of the globulin is always in inverse proportion to the gravity of the case. In grave cases but little globulin is detected, the albumen consisting almost entirely of serum-albumin. On the other hand, in the so called "physiological albuminuria" he finds only globulin. Dr. Maguire's explanation of the occurrence of one or the other of these forms of albumen is the following: Viewing albuminuria as due either to circulatory disturbance or to renal textural change, he suggests that where the nutrition of the glomerular epithelium is merely impaired, but no structural change has taken place, the more diffusible globulin passes; where actual structural change in the epithelium has occurred, the serum-albumin can no longer be kept in, and passes into the urine. The globulin is to be detected either by saturating the urine with magnesium sulphate in the cold, or by diluting the urine with a large quantity of water. In either case the globulin is thrown down. The latter test can be applied on a small scale by pouring a few drops of urine into a test-tube full of distilled water. After filtration the filtrate can be tested with nitric acid for serum-albumin in the usual way.

For several years past diplomas and certificates in sanitary science have been issued by the universities and other examining bodies. By a strange anomaly, however, their holders have been unable to register them. This injustice is to be remedied in the Medical Bill now before Parliament.

The London Hospital is at present, I believe, the only hospital which provides special accommodation for Jewish patients. The Metropolitan Free Hospital is about to follow suit. In their new building one-fourth of the total number of beds is to be set apart for Jewish patients.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 30 to June 5, 1886.

BAXTER, J. H., Colonel and Chief Medical Purveyor. Ordered to proceed to New York City on public business, and on the completion thereof to return to his station. S. O. 128, A. G. O., June 3, 1886.

PAGE, CHARLES, Lieutenant Colonel and Surgeon. Granted leave of absence for one month, with permission to apply for ten days' extension. S. O. 55, Department of Missouri, June 1, 1886.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered for duty at Madison Barracks, N. Y. S. O. 49, Division of the Atlantic, June 1, 1886.

ADAIR, G. W., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect when his services can be spared. S. O. 128, A. G. O., June 3, 1886.

ROBERTSON, R. L., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Snelling, Minn., and ordered to Fort Keogh, M. T. S. O. 45, Department of Dakota, May 24, 1886.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Keogh, M. T., and ordered to Fort Sisseton, D. T. S. O. 45, Department of Dakota, May 24, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 5, 1886.

SMITH, HOWARD, Surgeon. Detached from the Nipsic and placed on waiting orders.

"IT'S GERMAN, YOU KNOW."—

"We consider a coccus the cause of the gleet,
That is German, you know; so German, you know!
We dress a cut finger in a hay-stack of peat,
That is German, so German, you know!

"We insert a gum larynx and celluloid tongue,
We take out the spleen and resect the lung,
We save at the spigot and leak at the bung,
For 'tis German, all German, you know!"

—*Northwestern Lancet.*

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 25 NEW YORK, JUNE 19, 1886 Whole No. 815

MEDICAL LIBRARY OF THE POST-GRADUATE HOSPITAL

Original Articles.

THE TREATMENT OF DIPHTHERIA.[1]

BY S. HENRY DESSAU, M.D.,

NEW YORK.

THE treatment of diphtheria has been selected as being the most practical portion of the subject for consideration, while at the same time much that can be said under this head will have reference besides to the etiology and pathology of the disease. Diphtheria is a disease that is so familiar to all, that the consideration of any method or means of combating it must prove, I take it, full of interest. While it is my object to call attention to some points in the treatment of diphtheria that have been of material assistance to me in managing this uncertain affection, I shall not pretend to offer anything that I can claim as strictly original.

Perhaps the first question that may engage our minds is, Shall diphtheria be treated as a local or constitutional affection? Ever since the announcement to the medical world, by Oertel and others, that the disease depended upon certain germs for its causation, medical opinion has been somewhat divided upon the question. Unfortunately, however, bacteriology has not as yet been able to satisfy us altogether upon the matter, from the fact, as stated by Loefler, of Berlin, and other eminent authorities on the subject, that up to the present time the disease has not uniformly been successfully communicated to the lower animals. An immense obstacle has thus been placed in the way of further progress toward the solution of the question.

It has now been definitely settled, I believe, that the causation of diphtheria depends upon two varieties of germs, a *bacillus* and a *coccus*, but which of the two is the more important factor is left undetermined, simply on account of their imperfect communicability to the lower animals. This fact also leaves us in the dark as to whether these germs act upon the tissues involved in diphtheria locally or through the vascular system, so that Oertel has concluded it is first a local disease, and secondarily affects the general system.

But may we not seek in another direction for light upon the subject? The clinical history of disease in many instances, to my mind, furnishes valuable points in directing our thoughts in regard to treatment, and this, together with comparisons derived from analogy in other diseases, is certainly of great advantage. If we refer to erysipelas, for instance, to illustrate my meaning, we will find many features of that disease that may be compared with diphtheria. Here we know that it is a constitutional, self-limited affection, with a local manifestation that is likewise produced by a specific germ. I refer, of course, to idiopathic erysipelas. Then why may we not draw a like inference in regard to diphtheria?

In the early period of my practice I was in the habit of using both local and constitutional treatment in diphtheria, but experience has satisfied me that, with the exception of where the disease involved the larynx or nasal cavities, constitutional treatment was all that was required. In fact, the natural tendency of the disease being to cause a lowering and depression of the vital forces, the efforts to employ local applications in young children were found all the more harmful on account of oftentimes the most obstinate resistance on the part of the child. The result was, more exhaustion on the part of the physical forces, and more disgust and resistance on the part of the little patient when the time came for making the next application. Certain it is, in my experience, that my cases have done far better since I abandoned local applications.

I am fully aware of the argument that, after all, the remedies in most general use, such as the muriated tincture of iron, for instance, when used as a constitutional remedy, will also act topically on the mucous membranes of the pharynx, as it bathes them in the process of being swallowed. I grant this point, even at the risk of weakening my position as to the nature of the poison; but if this local application will suffice, it is an immense advantage gained for the little patient in his chances to resist the affection.

It has been stated by Oertel, as before mentioned, that the virus of diphtheria, having a predilection for the mucous membranes of the tonsils and pharynx, and the cavities of the nose and larynx in a milder degree, is first localized there as a point of infection, and, after producing its peculiar effects upon those parts, in the form of exudation, is thence absorbed into the system. Scientifically this may be admitted as a tenable theory, but, as I have before remarked, it should, notwithstanding, have little weight with us in directing our treatment against the disease, as we do not yet know how soon this secondary affection occurs. I have seen high fever, severe pain, and other clinical symptoms occur in diphtheria before the exudation was fully developed, and certainly I cannot believe that these were due to the slight amount of local inflammation present. For a long while my practice in the treatment of diphtheria was to administer the familiar combination of muriated tincture of iron and chlorate of potassium in solution only. But the elevated temperature at the onset of the disease was such a marked symptom, to my mind, that it occurred to me that an antipyretic that would not weaken the heart, while it would reduce the amount of blood-pressure, especially in localized parts. would possibly be of great assistance to the action of the iron and chlorate of potassium. Following out this idea I soon adopted the practice of administering tincture of aconite, in doses of a drop, or a fraction thereof, according to the patient's age, giving it every fifteen minutes for the first hour, and thereafter hourly. This, I found, tended speedily to reduce the temperature, so that in from twenty-four to forty-eight hours there was little or no fever present. Since this method of reducing the temperature was adopted I have had no occasion to regret it. On the contrary, with one exception, where the disease, though only involving the tonsils and soft palate, assumed a malignant character on the second day of its course, and destroyed the patient on the fourth day, the success with my cases has been uniform. Independently of the effect to limit the duration of the disease, and consequently the extent of the exudation, I believe many advantages are gained to the patient, in the way of promotion of comfort, as well as the relief of certain disagreeable features of the disease, as the vomiting, in the reduction of temperature. This is a point of great importance, in my estimation, in the management of diphtheria. The vomiting, for instance, in cases where the exudate has only involved the pharynx, not only adds to the exhaustion already exist-

[1] Read before the Northwestern Medical and Surgical Society, March 17, 1886.

ing, but makes the condition of affairs doubly worse by not permitting either food or medicine to be retained, where the frequent administration of both is all-important.

It may be thought that aconite would have a tendency to further weaken the heart, already made liable to this unfortunate feature by the diphtheritic poison. The exact physiological action of aconite being still *sub judice*, this may or may not be. But in the dose that I have given, as my practice in the administration of this drug, I have seen no such effects as a weakening of the heart's action. On the contrary, I have every reason to believe that it strengthens the already enfeebled heart-action, as is shown by a reduction of the temperature and pulse. And through its action upon the vaso-motor nerves it certainly reduces blood-pressure.

Since the introduction of antipyrin a more reliable remedy for reducing high temperatures has perhaps been found, and will no doubt afford immense satisfaction to those disposed to follow this method of treatment in diphtheria.

In seeking for an explanation of the beneficial action, according to my experience, of antipyretics in diphtheria, with especial reference to those that do not too much weaken the heart's action, perhaps the best that can at present be offered is the fact, as demonstrated by Hamilton, of Edinburgh ("Pract.," vol. xxiv., p. 87), that exudations whether upon mucous or serous surfaces, or whether due to local mechanical obstruction in the capillaries, or certain changes in the condition of the blood, are the result of *suddenly increased blood-pressure*. The effect of antipyretics, like aconite and antipyrin, for example, when given in proper doses, is to lessen or modify this tension in the blood-vessels, either in a limited area or in the circulation at large, without at all weakening the heart's action. In diphtheria the blood, moreover, contains more albuminoids than normal, owing to the disorganizing influence upon it of the germ-poison, and the tension of the vascular system is increased suddenly, and perhaps maintained in this state for a prolonged period, through the irritant action of the altered condition of the blood, or the effect of the virus itself, as the case may be. There may also be mechanical obstruction in the capillaries of the tissues of the pharynx, due, it may be allowed, as stated by Oertel, to the ingress of germs occluding their lumen. The exudate already formed may thus be limited in its tendency to spread, or its appearance in other parts, as the larynx for example, prevented, by controlling or keeping within safe limits this sudden rise of blood-pressure. I might mention here in this connection that Hamilton, above quoted, regards croupous and fibrous exudation as due to the same local pathological mechanism, viz., suddenly increased blood-pressure, being manifestations of a difference in degree only, of the same. This is entirely independent of the view that the two manifestations may depend upon opposite and distinct *general* causes, and be recognized as distinct diseases. This view is corroborated by Wood and Formad, who, in their report on "Investigations of Diphtheria," say, that "any tracheitis of sufficient intensity," and it may be presumed from whatever cause, "is accompanied with exudation."

When I have the opportunity of seeing a case of diphtheria involving the pharynx or nasal cavities, in the onset of the attack, I am in the habit of administering a dose of calomel, say from three to five grains, according to the age of the patient, combined with from five to ten grains of bicarbonate of soda. This is given as the beginning of the treatment, for the purpose of clearing out the intestinal tract and inducing an increased action of the hepatic function. The importance of the latter will be mentioned further on. Besides tending to quiet the nervous system by relieving the intestines of any irritant substances that may be present, I believe the effect of the calomel and soda is often shown to aid in reducing temperature. The first dose, if effectual in emptying the bowels, is not repeated.

In common with the practice of most physicians at the present day, I use the tincture of the chloride of iron in combination with chlorate of potassium. The formula I prescribe is two drachms of the former to four ounces of a saturated solution of the latter, of which from one to two teaspoonfuls, according to age, are ordered to be given every hour. I do not regard this remedy as having any antiseptic virtue in the treatment of diphtheria, but as the tendency of the germ-poison is to cause a dissolution of the blood, I believe the iron in the form of tincture of the chloride aids in maintaining the normal condition of the hæmatoïdin of the red blood-corpuscles, while the chlorate of potassium, in moderate doses, exerts a similar action, and at the same time, in conjunction with the tincture of iron, induces a diuretic action which may, to a certain extent, aid in eliminating the poison, or the results of its action on the blood, through the kidneys. Besides this, it is barely possible that the combination exerts a beneficial action upon the stomach by preventing abnormal fermentation of its contents, and thus enables that viscus to perform its functions in a physiological manner.

This last-mentioned action of the iron and potassium is, in my opinion, not to be slightingly regarded, as we well know that the outcome of the action of the poison of diphtheria upon the blood is to cause depression and prostration of the vital forces, and whatever method can tend toward the maintenance of nutrition is of the highest importance.

Corrosive sublimate, in doses of one-fiftieth to a hundredth of a grain, repeated every hour, has been used by me in several well-marked cases of diphtheria with gratifying results. It was administered from the onset of the attack, where the pharynx and posterior pharynx were the seat of exudation, and, with the exception of aconite, was the only remedy used during the course of the disease. I am not inclined to regard the action of corrosive sublimate when used as an internal remedy as of an antiseptic character. Rutherford, in his investigations of so-called cholagogues, states that in small doses corrosive sublimate is a powerful hepatic stimulant in the dog, and supposes that it has a similar action upon man. Brunton, quoting Brieger, has lately shown that one of the important functions of the liver is its power to destroy ptomaines, or the alkaloid poisons produced in the ordinary process of digestion. Now, through the stimulant action of corrosive sublimate upon the liver, it is reasonable to infer that that organ may be made to assist largely in the elimination of the diphtheritic virus through its destructive action upon the same. This was what was referred to when mention was made of the use of calomel and soda, though, perhaps, in this respect the latter is the more important of the two.

Benzoate of soda and salicylate of soda, both of which have been recommended in the treatment of diphtheria, and in various cases used by me, have, according to Rutherford, a marked cholagogue action, though in a less degree than corrosive sublimate. Scarcely a less important matter than the consideration of drugs is attention to the general surroundings and diet in the treatment of diphtheria. I need hardly mention that good ventilation is of prime necessity. The temperature of the room should be kept at from 60° to 70° F., and the air rendered moist with a steaming kettle in the room. If possible a sunny exposure should be selected. Under every consideration the patient should be kept in bed until convalescence is fully established. The importance of this point will be recognized when we remember the extreme liability to collapse during the course of the disease, and to sudden attacks of syncope after all traces of exudation have disappeared.

As before mentioned, the natural tendency of the disease being to cause prostration of the nerve-forces, I order alcoholic stimulants, in the form of sherry wine or old whiskey or brandy, to be given at frequent intervals, from the beginning of the management of the case.

These may be given in milk in the form of a punch. The proportions I generally order are a tablespoonful of the whiskey or brandy to a tumblerful of milk; and of this a tablespoonful to a half-wineglassful may be given every two hours.

Milk and beef-extract should form the only articles of diet, the former being given in small and frequently repeated quantities, the latter not quite so often. In severe cases, where there is any disturbance of digestion, the milk is preferred in the pancreatized form; and the beef as sarcopeptones, according to the method of Leube. This insures their easy and speedy assimilation, and is worthy of important consideration.

In older children, where the pharynx is painful upon swallowing, I have found cracked ice held in the mouth near the pharynx, and allowed slowly to melt, prove very grateful. It is likely also to assist in reducing the local inflammation. Where the lymphatic glands of the neck become enlarged, applications of a weak tincture of iodine are used. So far I have made no mention of the use of local treatment, because I have ceased to use it except where the nasal cavities or the larynx are involved; and here it is not used for the purpose of destroying the poison in order to prevent its further infection of the general system, but merely in the first instances for purposes of cleanliness, to prevent, if possible, secondary septic absorption, as the nasal cavities furnish an unusual prone source in this respect. Where the larynx is involved, of course the idea is to get rid of the mechanical obstruction to respiration as soon as possible.

The application I prefer to use in the nasal cavities is a weak solution of biborate of soda, or common borax with boracic acid, to which a small quantity of glycerine is added. A more elegant combination, which also contains a small proportion of carbolic acid, is that known as Dobell's solution. This is usually applied in the form of a spray, from a Delano hand-atomizer, to the anterior nares, but an injection from a small nasal syringe may be in some cases preferable, and more effectively used according to the intelligence of the attendant. It should be used faithfully at least every two hours, and much oftener if the severity of the case requires it.

Where the larynx becomes involved, I have on one occasion met with most gratifying success in the use of the vapor of slacked lime constantly inhaled. The patient had erected over him a tent, from a blanket attached to the head-board of the bed and held up about its centre with a barrel-hoop. A bucket of lime, which was slowly slacked from time to time by pouring water gently over it, was kept on a stool by the side of the bed, and below its level under the blanket. This was used for forty-eight hours, together with hourly spraying of the pharynx, under at times considerable opposition from the patient, with lime-water to which a few drops of liquor potassa was added; trypsin has recently been favorably recommended for a like purpose, but I have had no experience with it.

Tracheotomy, of course, should be held as a *dernier ressort*. I have never had occasion to perform it.

And now, in conclusion, it might be said by some, as it has been said by Henoch, "in my experience all remedies hitherto recommended, and I believe I have tried almost all, with the exception of sulphur preparations, are entirely useless in severe cases of the disease, and these alone should be considered, since the milder ones recover spontaneously." In answer to such, I would say that my own experience has been more fortunate, for while I do not deny having lost cases of diphtheria, yet I have had some that were almost despaired of recover. Moreover, I deny that it is in the power of any physician to say in the early stage of a well-marked case of pharyngeal diphtheria, that it is a mild one and will recover spontaneously. I do not think that we are called upon to treat any disease more insidious in its progress than diphtheria, and cases that may appear to be mild when first seen are liable to end in the death of the patient. I well remember my own experience in such a case, having been previously recommended by a friend who stands eminent in the medical profession to abstain from all active interference in a mild case of the disease, as I would be able to convince myself of its spontaneous recovery and hence the uselessness of treatment. In the next case of the kind I saw, where the exudation was limited to the tonsils and the febrile movement not very strong, I followed the advice, and, much to my regret, the case went from bad to worse—the nasal cavities and post-pharynx became involved, and death followed from exhaustion. I regard every case of diphtheria I meet with, where the constitutional symptoms are marked, as of a serious character, or likely to become so, and treat it accordingly. As we well know, it is those cases which are so mild as to cause little or no anxiety that are so frequently attended with involvement of the larynx, and this danger should always be kept in view.

Neither do I entirely reject the view as expressed by Sir John Rose Cormack, in his article on diphtheria in Quain's "Dictionary of Medicine," that it is a disease that runs its own course and cannot be limited. But as in the treatment of other self-limited diseases, as typhoid fever for example, certain indications may be met that will sustain the vital forces and modify the intensity of the poison, so that *the tendency to death may be averted.* If I have succeeded in drawing your attention to any points in this short paper that may aid in accomplishing these two results, I shall feel that my labor has not been in vain.

47 West Fifty-sixth Street.

THE PARALYSIS OF POTT'S DISEASE, AND ITS BEHAVIOR UNDER PROTECTIVE TREATMENT.

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The pathological condition of the spinal cord and its membranes in the paralysis so often accompanying Pott's disease of the spine has been so well described by Charcot, Michaud, Courjon, Echeverria, and others, that we can arrive at a fair idea of the lesion occurring in the spinal nervous system. We are, however, by no means so well informed of its predisposing causes, its clinical history, and its behavior under treatment.

It has been shown by these writers that the paralysis is very rarely caused by direct pressure of bone, as it is uncommon for even the very marked deformities to narrow the spinal canal to any great extent. Moreover, paralysis sometimes occurs before there is any deformity, it often recovers while the deformity gets worse, and many cases with extreme deformity are never paralyzed at all. Autopsy shows that in cases of paralysis the process ordinarily begins as an external pachymeningitis. The caries of the vertebræ, by contiguity or by irritation, causes this meningitis, and there is a deposit of inflammatory material in the dura, a consequent thickening of that membrane, and compression of the cord by this thickened dura at the point of irritation. The compression probably at once starts a myelitis, and it is this myelitis that is the cause of the paralysis. As the seat of the caries is in the bodies of the vertebræ, the meningitis is ordinarily anterior, and the myelitis is most severe in that part of the cord, especially at first, but it varies in extent from a mere infiltration to a complete disintegration of the cord. It may be more or less unilateral, it may extend up or down the cord, but pressure-myelitis causes the paralysis, which will vary with the extent and seat of the lesion. Ascending and descending secondary degenerations follow in time when it is of any considerable extent. If the myelitis recovers, it leaves a certain amount of sclerosis of the cord at the seat of the disease.

This, again, may be very slight, or the cord may be reduced to a fraction of its former size, and yet serve well enough to transmit healthy nervous impulses.

But meningitis is not the only cause of compression-myelitis in this disease, although it is the common one. There may be a direct strangulation of the cord by the vertebral arches, obliterating the canal; an abscess from carious bone may be a source of pressure within the canal; a caseous deposit from the vertebræ and a loose piece of bone have been found as sources of pressure. From the autopsies it seems probable that pressure from any source at once sets up a mild myelitis.

The clinical picture is what we should expect: a paralysis of motion, mild or severe, followed, if the case gets worse, by a paralysis of sensation, which is said by Courjon never to become complete. The motor paralysis varies from mere muscular weakness to complete loss of power. It begins as a sense of fatigue, a dragging of the feet; then there is inability to hold oneself erect. Unless the disease is in the lumbar region, the reflexes are exaggerated, and muscular spasms often start from the least irritation; they frequently appear spontaneous. The muscles are flaccid and the legs are powerless. With the secondary degenerations in the cord rigidity sets in; first the legs are rigid in the extended position, then flexion accompanies the permanent contracture. The bladder and rectum are paralyzed toward the end of all very bad cases, and whenever the lumbar enlargement is involved; in milder cases they escape. It is hard to explain why the arms are paralyzed in certain cases of dorsal caries, for an ascending secondary degeneration of the cord should give rise to no symptoms, and we have to assume an extended myelitis or meningitis. Of the sensory paralysis below the lesion there is less to be said: it is apt to begin as paræsthesia; anæsthesia afterward comes on to a greater or less extent, and when this occurs it means a pretty extended transverse myelitis.

Many cases of Pott's disease, especially in children, are bedridden, or at least non-ambulatory, without being paralyzed. When the disease runs its course unchecked, asthenia is often profound, and although there may be no trace of paralysis, the patient frequently has no desire or strength to walk or even to sit up. Another cause which sometimes keeps patients off their feet, independently of paralysis, is psoas contraction of a severe grade, especially if bilateral. Still another reason is a preponderating mental impression of inability to walk or stand. We remember a little girl whose disease was severe and active, where it was desirable that she should be kept off her feet for a time. This was much facilitated by an idea of the child's that she could not walk, which had been encouraged and probably suggested by her nurse, and the little thing was so impressed with the notion that she never made the attempt for months, although there was no trace of paralysis and she crept with facility. Here, as through the whole range of disease, we see function determined by the grade of consciousness of power, as well as limited by the degree of integrity of structure. Many cases persist in walking when paralyzed to a degree which ought to preclude it, and which would ordinarily do so, while others are bedridden with little or no paralysis, or remain so after the paralysis has totally disappeared, having recovered without being conscious of restoration. This accounts for the suddenness of invasion, and particularly of recovery, in some of these paralyzed cases.

We pass to the study and analysis of 59 cases of compression-paraplegia occurring in 445 cases of Pott's disease treated or observed by Dr. C. Fayette Taylor in private practice. In each of these 59 cases the paralysis was present at some stage of the disease. In 31 of the cases it had developed before the patients applied for treatment, while in 19 cases it came on while the patient was being treated, and in 9 cases it is impossile to say from the notes whether it appeared before or during treatment. With a very few exceptions the patients had had no mechanical treatment previous to applying.

Twenty-eight of the cases were males and thirty-one were females.

The age of the patients showed little of interest. The oldest was fifty years and the youngest two; 13 were adults and 15 were under three years of age. The location of the disease was as follows: of 59 cases, 1 was cervical, 7 cervico-dorsal, 37 dorsal, 7 dorso-lumbar, 4 lumbar, and 3 unclassified. The liability of the three regions (cervical, dorsal, and lumbar) to caries is about 1 : 5 : 3.[1] It will be seen from this that paralysis is more likely to follow caries of the dorsal vertebræ than disease of the other regions.

The character of the deformity was a most interesting point. It was classed as large in 20, medium in 10, and very small in 17; 12 were unclassed. With regard to shape, in 26 the outline of the deformity was rounded and very gradual, while in 16 it was markedly angular, 10 were classed as progressive, where the deformity became somewhat worse in spite of treatment. These 59 cases were by no means worse, so far as deformity goes, than any fifty-nine cases taken at random would have been. They were average cases; there was no one with any unusual amount of deformity, and its amount and character gave in advance no clew as to the likelihood of the occurrence of paralysis. To account for this seeming independence of the paralysis, we can only assume that the seat of the caries and its relation to the meninges is a more potent factor than the amount or character of the deformity.

A girl, twelve years of age, was admitted to Roosevelt Hospital, in 1872, completely paralyzed in the legs, which were rigid and beginning to flex on the pelvis. Ankle-clonus and increased patellar reflex were present; sensation was good, but had been impaired a month previous. No deformity was to be seen in the back, and the diagnosis of hysterical paralysis was made. The trouble had been coming on for six months, and no cause could be assigned for it. After six months of rest in bed, tonics, and electrical stimulation, she rather suddenly became able to stand and walk, and about this time a rounded projection was noticed in the dorsal region of the spinal column, and the diagnosis of Pott's disease was made. The deformity increased for a month or two, but under mechanical treatment, at a public institution, a cure was effected, and there has never been any return of the paralysis. Here, then, was a case of paraplegia occurring before deformity appeared, and of recovery from the paralysis while the deformity grew worse.

The paralysis occurred on the average about two years after the beginning of the disease. It came on immediately after a fall in 4 cases,[2] in 8 cases it appeared within one year, in 16 cases within two years, in 4 cases within three years, in 3 cases within four years, and 1 each in five, nine, eleven, fifteen, and twenty-eight years; 19 cases could not be classified. Its beginning was almost always gradual; it began oftenest on one side and was usually first noticed as a dragging of one foot, the other foot became involved in a few days, and the course went on as above described. In the majority of cases an unusual amount of pain in the chest and abdomen, even for Pott's disease, preceded the paralysis by some weeks, but did not ordinarily persist after the paralysis began.

It always began as a motor paralysis, and in a certain number of cases an incomplete sensory paralysis came on afterward. The latter is noted as having been present only fifteen times, but the number is undoubtedly too small on account of the impossibility of getting an accurate amount of past attacks. In some cases there was a complete paralysis of motion, with rigidity of the limbs,

[1] Location, Age, and Sex in Pott's Disease of the Spine, H. L. Taylor, MEDICAL RECORD, vol. xx., No. 7, August 13, 1881.

[2] These traumatic cases are included in our study to draw attention to the great value of efficient protective treatment in severe spinal injuries, where the outlook is ordinarily so gloomy. Of the four, three developed Pott's disease—one of these recovered from the paralysis, and the two others were improving when last heard from: one case did not develop Pott's disease, but was completely cured of his paralysis by spinal support.

while sensation was perfectly good, and in other cases a sensory paralysis followed very closely on an incomplete motor paralysis. In 32 cases the paralysis of motion was complete, in 13 it was incomplete, while in 14 the notes were indefinite.

The duration of the paralysis in the cases which could be watched was never over three years, except in 1 case where the paralysis persisted after the lapse of six years somewhat improved. In 2 cases it lasted three years; in 5 cases it lasted two years; in 7 cases it lasted one year; in 4 cases it lasted from six to twelve months; in 8 cases it lasted six months; in 9 cases it lasted from two to four months; in 23 cases the duration was not known.

The average duration of all these cases was a little less than one year, and when the paralysis came on under treatment the average duration was only seven months. The disappearance of the paralysis was gradual—the sensory part recovered first, then the motor, and last of all the tendon reflexes became normal. In three or four cases the recovery followed in a few days or weeks on the evacuation of an abscess, and in 1 case the recovery was sudden and occurred during an attack of measles, after the paralysis had lasted two years. A recurrence of the paralysis was not uncommon, having occurred in 6 cases—4 patients had two attacks, and 2 others had three. The intervals between these recurrences varied from a few weeks to some years.

The tendency of the paralysis seems to be surprisingly strong toward recovery. Of the 59 cases analyzed, 39 are known to have wholly recovered; 3 recovered in part, 5 died of intercurrent affections, and the termination is unknown in 12 cases. That is to say, in the whole number of cases where the termination is known, eighty-three per cent. recovered wholly from the paralysis, and this percentage is undoubtedly too low; for, of the cases which died, 2 were recovering and 2 others were probably over their paralysis when they died, although they cannot be so counted. Of the deaths, 2 were due to pneumonia, 1 to acute phthisis, one to the opium habit, and 1 to acute cerebral meningitis. The termination is unknown in so many cases because they only came for consultation, or disappeared from observation after a little while, or were discharged for neglect. The bladder and rectum are noted as having been paralyzed in 8 cases, and here the per cent. of recoveries fell to fifty-seven where the result was known. The arms were affected in 3 cases—and of these, 1 wholly recovered and the other 2 partly. Muscular rigidity is noted in 5 cases, of which 2 wholly recovered, but it was undoubtedly present in many others. The latter symptoms mean much damage to the cord, and the wonder is that any recover from them. *Where the paralysis came on while the patient was under treatment* (19 *cases*), *the percentage of recoveries was one hundred in the* 17 *cases whose termination was known*. Of the 2 cases where the termination was doubtful, 1 was recovering power quite fast at the end of six months, and the other was still paralyzed when two years had gone by. Neither has been heard from since.

The treatment in all cases was directed to the spinal caries, and was protective, viz.: the application of the Taylor spinal apparatus, and chin-piece when necessary. Great stress was laid on thorough and adequate mechanical support entirely under the surgeon's control, and modified by him to suit the varying indications. The protection was only considered satisfactory when, with a firm and even impression of the pad-plates, the patient's acute symptoms subsided in a few days or weeks, his health and strength improved, and the progress of the deformity was substantially arrested without discomfort from the apparatus. The patient was put to bed and not encouraged to walk until there was a pretty complete return of power. There was no medicinal treatment directed to the paralysis.

It seems justifiable to assume from the statistics that in the course of a few months the paralysis will disappear without any other than the protective treatment for Pott's disease joined to rest in bed during the time of disability. Moreover, when paralysis occurs while the spine is being efficiently supported, our study shows that its duration is shortened, its type is milder, complications are fewer, and complete recovery from it is almost certain. Lastly, its rare occurrence during adequate mechanical treatment is to be noted. In these statistics it occurred only 19 times in 445 cases. Gibney[1] reported 62 cases in 295 cases of Pott's disease at the Hospital for the Ruptured and Crippled, of which perhaps a third were paralyzed before coming to the hospital. The French treatises deal with the disease as seen in hospital wrecks, and afford us no information as to its course or the frequency of its occurrence.

It seems, then, to be an affection of rare occurrence in Pott's disease under efficient protective treatment. It occurs without regard to the amount or character of the deformity, and is usually preceded by much pain; on the average it lasts a little less than a year. Its prognosis is extremely favorable in mild cases, or in severe ones if they can be treated early. If the bladder and rectum are involved, or muscular rigidity of long standing is present, the prognosis is not so good; but even then it is far from being bad. The treatment is efficient mechanical support to the spine and rest in bed. Under these circumstances it becomes a complication of spinal caries of no very serious import.

NOTE.—In order to make this paper as complete as possible we quote the following from a letter from Dr. C. Fayette Taylor, in Meran, Austria:

"You have chosen a good subject for your article, but it is probable that I could supply from memory the final results in some cases which failed to be recorded in the books. Cases that came paralyzed—long-standing cases, I mean—and cases that discontinued treatment after insufficient time and opportunity, ought not to be considered as having any bearing on the general results of paralysis under treatment by protection; for by protection is necessarily meant adequate protection, as to efficiency, time of beginning, continuing, and terminating it. Considered in this light, I am not aware that there was ever a case under my treatment, to whom protection was given at any time before the cessation of the destructive process, whether paralyzed at the time it came under observation or after, which did not entirely and permanently recover. In that connection some strange things have happened, leading me to believe that paralysis occurring during the course of disintegration of vertebræ is always in the first instance in consequence of the pressure of fluid, but that fluid-pressure does not produce permanent injury to the cord, merely suspending its function—that is to say, sufficient fluid-pressure to produce disintegration of the cord is not reached because the surrounding soft tissues give way first and the fluid escapes into the adjacent parts, thus diminishing the pressure on the cord. Hence the frequent occurrence of the appearance of a lumbar or psoas abscess and the recovery from the paralysis at the same time. More commonly, however, the retarded disintegration and diminished formation of fluid consequent on protecting the carious vertebræ allows the fluid to be absorbed and so lessens the pressure, when the cord resumes its function and the paralysis ceases. Permanent paralysis in consequence of Pott's disease, the evidence of my experience goes to show, is nearly always the result of bone-pressure from narrowing of the spinal canal—not often from exostoses, as is frequently claimed. The kyphosis results of course from destruction of several vertebral bodies. Even in the latter case, when the cord is bent at a sharp angle in a narrowed canal, there is good reason to believe that in some the cavity enlarges in time so as to give the cord more room, and its function becomes wholly or partly restored. This probability is forcibly illustrated in several cases of traumatism, where the paralysis occurred immediately.

[1] Journal of Nervous and Mental Diseases, April, 1878.

"D—— fell out of a third-story window and was taken up totally paralyzed in his lower extremities. I saw him nine months later. At this time his lumbar spine presented every appearance of an ordinary case of Pott's disease, several vertebræ being affected and the lumbar portion bulging outward in the ordinary way after loss of substance in the bodies. But there had lately been a gain of some motion in the lower extremities, which I attributed to enlargement of the spinal canal consequent on the softening of the bodies. He was walking about in a month and recovered rapidly and entirely under protection. The peasant here—mentioned in a previous letter—is another apparently precisely similar example, and seems likely to have a similar result. He was run over last July, and taken up paralyzed in his lower extremities. I saw him a month ago, and already there was slight power in one leg, though disintegration was evidently going forward in the bodies of the vertebræ, as indicated by the rational symptoms and the appearance of the projection in the back. If, as seems probable, there was dislocation or fracture by the injury in these cases, causing pressure on the spinal cord, we can only account for even the slightest improvement in its function by supposing a diminution of the pressure."

CYCLIC ALBUMINURIA.

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Cyclic albuminuria implies albuminuria in persons who appear to be otherwise healthy, local disease being probably present, but to an extent insufficient to produce any other symptom. This form of albuminuria is also spoken of as "albuminuria of adolescents," "intermittent albuminuria," and "physiological albuminuria."

It is very important that cyclic albuminuria should be carefully distinguished from the ordinary form of albuminuria due to morbid changes in the kidney, as the result of these two conditions is quite different, and hence, should a trace of albumen be found in the urine, it does not necessarily indicate serious renal disease.

Dr. C. von Noorden, of Giessen, classes physiological albuminuria into three groups: In the first group he finds albuminuria to be present in persons between the ages of puberty and twenty years, and especially in those of a feeble constitution, and rarely has he found this condition to be present in individuals above or below these years. In the cases which he examined he detected the albumen either while making clinical statistical researches, or during some slight ailment.

He finds the albumen to vary at different periods of the day. The urine is rarely albuminous the entire day. In these cases he found the conditions to be characteristic of physiological albuminuria, and quite distinct from the conditions present in any of the forms of nephritis. The urine is of a pale, clear color; the specific gravity varying from a high to a low, especially a high, specific gravity. The albumen generally coagulates on boiling. Globulin compounds and casts are rarely present, but when casts are present they are of the hyaline variety. Dr. Noorden finds the albumen to be most abundant about noon-time. In these cases of physiological albuminuria no renal disease has been noticed. Dr. von Noorden believes this form of albuminuria to be due to blood alterations, probably caused by slight renal disease rather than by changes in the tubuli uriniferi, as suggested by Leube.

In Dr. von Noorden's second class of physiological albuminuria there is present mucin, together with albumen; in this, as in the first class, albuminuria is most marked before noon. The mucin is supposed to be derived either from the lower urinary tract or from the kidney. In these cases the amount of albumen varies in proportion to the bodily exercise. Dr. Noorden believes this class represents mild vesical catarrh.

The third class, according to Dr. Noorden, is suggestive of slight catarrhal inflammation of the kidney, but not sufficient to cause renal disease.

In this class the albuminuria may continue the whole day and then disappear, or may be present about noon-time and early in the evening, and disappear by bedtime. This class is noted for the absence of mucin, and the presence in the urine of casts, principally hyaline, with an occasional epithelial cast; now and then red blood-corpuscles are present.

Physiological albuminuria may exist when local disease is present, provided the latter is incapable of producing any other symptom. Within the past few years I have noticed several cases of this form of albuminuria. My attention was first directed to this condition while a student at Guy's Hospital, London, by reading an article in the hospital reports by Dr. Moxon, on "Albuminuria of Adolescents." Since then I have made careful examinations of various specimens of urine of persons whom I supposed to be healthy, and have noticed at certain periods during the day changes taking place in the urine, or diurnal alterations in the condition of the urine.

It may seem strange, but still it is none the less true, for us to find, on examining a specimen of this kind of urine, it to contain a large quantity of albumen, while an examination of another specimen of the urine a few hours later fails to detect albumen; and this condition may continue day after day.

Dr. Pavy has noticed that what is observed one day is repeated with more or less exactness the following day. Such have been the conditions observed in my cases.

He considers these cases have a cyclic character belonging to them, and he has applied the term "cyclic albuminuria" to this form of albuminuria. I have examined the urines of both adults and children from early in the morning till late at night, and I have noticed that in the majority of cases the urine was free from albumen from 5 A.M. till 8 or 9 A.M., after which time traces of albumen were detected in the urine, and gradually reached its maximum about the middle of the afternoon.

A peculiarity of this form of albuminuria is that after reaching its maximum, it gradually declines, disappearing by bedtime as a rule. In some of the cases which I have examined, I have observed albumen in the urine as late as 10 P.M., but this is the exception rather than the rule; in the majority of cases the albumen disappeared from the urine by bedtime (10 P.M).

The amount of albumen present varies considerably, on one day being quite large, the following day the amount being smaller.

The time of day at which the albumen appears in the urine is quite regular; in some cases I have observed albumen to be present in the urine at 10 A.M. and 11 A.M., and on the following day the albumen appeared in the urine of the same cases between 10.30 and 12 M.

In all the cases which I examined I could find no evidence of Bright's disease.

The health of my patients was unimpaired, notwithstanding the fact that the presence of albumen was noted in the urine for months. A microscopical examination of the urine revealed nothing of importance with the exception of crystals of oxalate of lime.

In one or two cases the character of the pulse was very like that of Bright's disease, but the pulse as a rule was quite soft. Whether or not this form of albuminuria is to be regarded as an early stage of Bright's disease is a point yet to be decided.

My own cases presented no evidence which would lead me to suppose that anything serious should follow as a result of this form of albuminuria. No causal relation, according to present opinion, exists between this form of albuminuria and Bright's disease. In some cases the interval between the complete disappearance of the albumen from the urine until its return a second time,

varied from one to three months, and a careful examination of the urine in those cases where this form of albuminuria appeared for a second or third time, gave no evidence of the presence of Bright's disease, and on no occasion did I find casts of any description present in the urine. The form of albumen present in the urine in these cases is supposed to be serum and alkali-albumen.

The following cases best illustrate this form of albuminuria:

A. B——, aged twenty-four years, medical student, came to me January, 1886, suspecting something was wrong with his kidneys. The next few days following the one he called on me, I asked him to carefully examine his urine after rising in the morning and while fasting, till bedtime.

He says he examined his urine carefully with nitric acid and heat, and other recognized albumen tests, all of which he says produced a decided milkiness of the urine, denoting albumen, which increased on standing, and at the end of twelve hours left a deposit of about one-twelfth per cent. albumen.

The urine was acid, specific gravity 1.022, no casts or sugar; a few crystals of oxalate of lime were seen upon microscopical examination of the urine. He came to me January 28th, and I examined a specimen of his urine, which was passed on arising and while fasting. I found no albumen. About noon of the same day, and at 5 P.M., I examined specimens of his urine, and I found albumen present each time, but most abundant at 5 P.M.

Examination of a specimen of urine at bedtime of the same day showed only the faintest trace of albumen.

Several days later I asked him to examine his urine early in the morning and through the day. He reports albumen present at 11 A.M., 5 P.M., absent at 10 P.M. The amount of albumen present he says was much less than on former occasions. The following morning I advised him to examine his urine before breakfast, and then to breakfast chiefly of eggs and fish, and note the difference, if any, in the condition of the urine.

As a result of the examination before breakfast, he reports albumen to be absent from the urine; examination of urine two hours after breakfast, or 10 A.M., shows the presence of albumen in small quantities; examination later in the day shows larger quantities of albumen to be present; albumen absent at bedtime, 11 P.M.

The urine passed on arising in the morning of January 30th contained no albumen, reaction acid, specific gravity 1.028; at 11.30 A.M. albumen present, acid reaction, specific gravity 1.023; at 5 P.M. the specific gravity was greater than at any other examination, albumen present in slightly larger quantity than at 11.30 A.M. At bedtime specific gravity 1.020, which was less than on any previous examination during the day; a trace of albumen present in the urine.

Examination of the urine for a few days later gave the same result apparently as observed on January 30th. Microscopical examination of the urine revealed nothing of importance, no casts, no sugar.

This patient had been informed that he had disease of the kidneys.

After he had been under my care for a few weeks I informed him the trouble was not what he supposed (Bright's disease), but the form of albuminuria now under consideration. A few days ago I saw this patient for the first time in several weeks; he said he had examined his urine carefully the past few days and found the albumen very decidedly diminished, and I informed him that I thought the trouble would eventually disappear.

Mr. J. T——, a healthy-looking young man aged twenty-three, came to me complaining of lumbar pain, and thinking his kidneys might be affected, brought a specimen of his urine to me, stating that he would like it examined carefully so as to relieve his mind of any doubt as to the nature of the disease if there were any present.

Examination showed albumen present, which caused him great anxiety. Thinking that the case was one of the class now under consideration, I desired him to bring me specimens of his urine passed at different periods of the twenty-four hours for examination.

Daily examination of the urine was made for several days. Examination of the urine passed on rising in the morning and while fasting showed albumen to be absent. The albumen sometimes appeared in the urine as early as 9 A.M., and again not until noon-time.

The quantity of albumen, though small in the morning, gradually increased through the day, reaching its maximum between 3 P.M. to 7 P.M., then gradually declining, the albumen either disappearing entirely from the urine or only a trace being detected in the urine at bed-time.

In this case there was no evidence of Bright's disease, heart normal, pulse soft and not characteristic of renal disease. Such was the condition of the patient when seen by me in the fall of 1884.

A few weeks ago Mr. J. T—— visited me and I examined his urine for several days, and found the urine still to contain albumen, but in a much less quantity than when he first came to me in 1884.

The albumen appeared at regular periods of the twenty-four hours on this as on previous occasions. The last examination, made but a few days ago, showed the amount of albumen to be very much diminished, and I gave as my opinion that the albumen would probably disappear from the urine.

I have to-day, April 24th, examined a specimen of his urine passed on arising, which contained no albumen; that passed later in the day contained albumen in varying quantities; that passed at bedtime contained no albumen. The urine passed between 5 P.M. and 7 P.M. contained the largest amount of albumen, but much less than on former occasions.

Mr. J. McC—— consulted me in the winter of 1885. He was a druggist and had learned how to test his urine for albumen. He said he was subject to albuminuria, but said he could detect albumen in his urine at certain periods of the day only.

He states that he cannot detect albumen in his urine on arising in the morning, but that he finds albumen by noon-time, which gradually increases through the early afternoon and evening, and gradually disappears by bedtime.

He says on some occasions he finds only a very small trace of albumen present in the urine, and at other times fails to detect any albumen.

I have made repeated examinations of his urine, and on the whole I find his statements to be quite correct. I last saw him in March of the present year, at which time I examined his urine carefully and found albumen present in so small quantities that I informed him the albumen had almost entirely disappeared from the urine.

Dr. Pavy believes that albumen may persist in the urine without giving rise to grave conditions, and says he has met with cases which bear out his opinion. The subject is worthy of careful inquiry.

THE PARISIAN MODE OF OPERATING FOR CATARACT.—De Wecker first washes out the palpebral aperture by a fine jet of solution of bichloride of mercury, 1 in 2,500, then makes his section with the thinnest possible knife, by means of puncture and counter-puncture. This done, he does not perform iridectomy, nor does he lacerate the capsule in the usual way, but bites a large piece out of its centre with a fine cystotome forceps. After pressing out the lens with the back of a curette, he injects a solution of eserine into the anterior chamber by means of a delicate drum-syringe, and one sees an immediate contraction of the iris to a pin's point, and a circular pupil. The eye is again carefully washed by a stream of bichloride, and then covered with a dressing of eserine, glycerine, and bichloride, which is changed daily. De Wecker assures me he has not had a suppuration this year.—*Cor. Cincinnati Lancet and Clinic.*

SOME SUGGESTIONS AS TO THE CARE OF THE INSANE PRIOR TO THEIR ADMISSION TO AN ASYLUM.

By HENRY A. HUTCHINSON, M.D.,

MEDICAL SUPERINTENDENT OF THE WESTERN PENNSYLVANIA HOSPITAL FOR THE INSANE.

The care of the insane previous to their removal to an asylum is a responsibility demanding the wisest judgment and thought of those whose duty it is to be thus engaged.

In some of its forms no disease is more amenable to treatment in its acute or early stages, and no fact than this is more widely recognized by alienists and more earnestly advocated.

As the superintendent of one of our large State hospitals for the insane, I have had ample opportunity to observe the methods often employed in caring for this afflicted class, and from these observations I am inclined to believe the reason a larger percentage of cures is not obtained in hospitals consists in the ofttimes indifferent treatment patients receive before their admission.

In many families there exists a prejudice in committing patients to a hospital, and to commit one of their afflicted members to an institution of this character is regarded as a disgrace both to the family and to the patient.

A short time since a patient was brought to this hospital, and the mother, upon giving me the history of her daughter's case, remarked: "I have prayed Heaven to spare me this greatest of all afflictions, the disgrace of having a child a lunatic and confined in an asylum."

As a result of this prejudice many insane are treated at home by their friends, the objectionable lunatic asylum, with its every facility for the care of just such cases remaining an insurmountable barrier to the patient's rapidly departing chances of recovery.

When these endeavors have signally failed to restore the patient to reason, and the unfortunate being has become incurable and broken down in bodily health, he is taken to the hospital, and the friends accompanying him entreat the asylum physician to care for him kindly, and are surprised if an unfavorable prognosis be given. Many who have no friends to care for them, or in whom the insanity is of a dangerous type and unsafe to be cared for at home, are arrested and placed in jail, their period of residence varying sometimes but a few days, or extending for several weeks, until the court decides as to their insanity, and they are then committed to an asylum.

It is at this very time, upon the first manifestation of the disease, that the court should at once direct their admission to a hospital, as their residence in jail, where no means exist for their proper treatment, and, as is often the case, where they are provided with the barest necessaries of life, is the time when judicious medical treatment and the care and comfort of a well-appointed institution would effect their restoration to reason.

Female patients have frequently complained to me of the disregard of the proprieties of life during their imprisonment in jail prior to their removal to an asylum. No jail should be conducted without a matron, whose duty should be to care for the female inmates.

Of forty-five patients committed to this hospital by order of the court, of the thirteen counties comprising this asylum district, sixteen were committed directly from jails, and of this number but three recovered, though a large proportion were acute cases.

A no less important factor in the care of the insane is the time and manner of their removal thereto. The larger number of patients when admitted to our hospitals are in poor bodily health, and there can be no doubt the condition of many is made worse by the fatigue and exposure incident to the journey. In acute cases the exhaustion following is often fatal. In this hospital fifty-nine deaths occurred during the past year, eight died whose period of residence was but twelve days, and two were in a dying condition at the time of their admission, and died within seventy-two hours after.

One of these patients, suffering from acute melancholia, was in a state of collapse when admitted; the other, who had typhoid fever, was beyond the aid of all human skill when brought to the door.

Female patients should always be accompanied by some female friend or relative in whom the patient has confidence, and to whom she can make known her wants and necessities. The total disregard of these proprieties, as shown so frequently in female patients brought to asylums in the custody of men, and who are perhaps strangers, is often attended with great mental excitement, prolonging the insanity, and operating largely against possible recovery.

All superintendents will agree with me, I think, in regard to the difficulty in obtaining a history of patients admitted to their hospitals; so often the friends hesitate or dislike to state the particulars and etiology of the patient's trouble, thereby embarrassing the physician in his future treatment of the case, and also acting as a hinderance to the patient's recovery.

The hesitancy on the part of friends, however, seems universal, as the records of this institution prove.

In preparing this paper I have referred only to what appears to me to be the more prominent defects in the present methods of providing for this class of humanity, but I feel assured, that "until the present laws controlling the admission of patients are amended, making provision for the overcoming of these evils, the mortality in the State hospitals will be necessarily large, and the number of cures materially lessened."

HÆMATOMA AURIS.

Three Cases Treated by the Conjoined Use of Massage, Galvanism, and Leeching.

Service of CHARLES H. NICHOLS, M.D., LL.D.,

MEDICAL SUPERINTENDENT BLOOMINGDALE ASYLUM.

(Reported by SANGER BROWN, M.D., First Assistant Physician.)

Case I.—Puerperal mania in a lady, aged thirty, commencing quite suddenly about ten days after her first confinement. First appearance of tumor was noticed in left ear about three months later, and about three days after a change of the manifestations from a comparatively mild to a very active type. Galvanism was used once, and massage from four to six times, daily for three weeks. Two days after the tumor was noticed in the left ear, one was observed to be making its appearance in the right, and this, too, was treated in the same way. Both tumors continued to enlarge slowly for about five days, and then remained stationary for about the same, or perhaps a somewhat longer period, when they began slowly to subside.

In the left ear the tumor, when largest, was about the size of a medium-sized almond; in the right it was about two-thirds that size.

The patient was discharged, recovered, after having been in the asylum eleven months and sixteen days, and at that time only a very slight trace of deformity could be detected in the left ear, and none in the right.

Case II.—A very active type of acute mania in a highly refined and cultivated single lady, aged thirty-two. Hæmatoma appeared in both ears about six weeks after her admission, and about ten weeks after the appearance of mental derangement. In this case the hæmatomæ were not immediately preceded, accompanied, or followed by any noticeable change in the insane manifestations, the patient having been very actively excited throughout.

The same treatment was employed as in Case I., but the tumors increased in size much more rapidly; and, unfortunately, by means of some apparent defect in the battery used, on the fifth day of the treatment the galvanic current was applied with such strength as to thoroughly blister both ears. This accident prevented further interference for several days, but meanwhile the growth of the tumors appeared to have been

arrested. Leeches were next applied daily for four days, and about ʒ ij. of blood taken on each occasion; and at the end of this time galvanism and massage were increased, and continued two months. Massage alone was practised somewhat irregularly for a month later.

In this case the tumors, when largest, involved nearly the whole upper three-quarters of the auricles, and were about a half-inch in thickness.

The patient was discharged, recovered, seven months and nine days after her admission, with no more deformity than a slight thickening of the ears without obliteration of the normal lines.

CASE III.—Puerperal mania in a young married lady, twenty years of age, confined with her first child.

Hæmatoma appeared in the left ear in the fourth month of her disease, which until five days prior to the appearance of the tumor had been characterized by noisy incoherence and a tendency to destructiveness and violence; but at this time she became very silent and stupid, the features indicated almost complete mental stagnation, and the secretions of the mouth and nose were utterly neglected.

The same treatment was instituted as in Case I., with the addition of leeching every alternate day for the first eight days. No increase in the size of the tumor could be noticed after the first week, and it had perceptibly begun to diminish before the end of the third week.

This patient is still under treatment, having been admitted upward of six months ago, and in her case there is nothing that could properly be called deformity.

In none of these cases could it be fairly supposed that the hæmatomæ were the result of traumatism.

A great deal of time and attention is necessary on the part of the physician in order to apply the above treatment thoroughly, but it is to be hoped that someone in a position to do so will apply it to a greater number of cases than I have done and report the results.

In those very active cases, where the tumor reaches the size of a hen's egg within forty-eight hours after its first appearance, it may well be doubted if much can be done to arrest its development or relieve the deformity.

Clinical Department.

VERTIGO, AND ITS TREATMENT BY BLISTERS.

DR. CHARLES E. WILLARD, of Catskill, N. Y., writes: "Having had under my professional care during the past winter an unusually large number of cases of stomachal vertigo, I feel constrained to place upon record some of them, as they differed somewhat in their most prominent symptoms from those usually recorded as classical. I hope that that which caused me much vexation of spirit will prove of service to some other members of the profession who, like myself, have been driven to the wall by these often stubborn and intractable symptoms.

"To be brief, then, I will begin at once with some of the symptoms as witnessed in Mr. J——, aged forty-two. The first attack occurred while upon a ladder. The sensation, as he graphically described it to me, being as though an earthquake was about taking place, the house and the ladder moving as though on the waves of the ocean, rolling and pitching, but always with the roof ahead, and never turning sideways; a sensation of fear, and a peculiar sick or faint feeling at the pit of the stomach; the knees also appearing to lose all their strength; during all this time he was conscious there was no earthquake, or that the house was anything but standing firmly. His arms were not affected by the general weakness, and by holding himself closely to the ladder he avoided falling; and in a short time, the symptoms passing off in a measure, he was enabled to safely descend the ladder. There were no further developments that day; but the next morning, upon awakening and turning upon his left side in the bed, he immediately had a return of the dizziness, only this time the bed seemed to go pitching around the room, always the foot of the bed first (ahead), as though it were floating rapidly upon a huge wave of water, never turning over or upon its side, but always remaining level. After resting for a while upon the back the symptoms in a measure subsided, but upon again turning upon the left side there was a reappearance of all the symptoms just described, with the addition, this time, of a shower as of black soot falling before the eyes. All subsided again in a short time by turning upon the back, and after taking a short nap he carefully turned upon the right side and was enabled to get up, slowly dress himself, and eat a light breakfast. During the next ten days these symptoms occurred at irregular and uncertain intervals, accompanied by headache of a peculiarly distressing character, completely preventing any kind of labor, either physical or mental; there was some slight hesitancy in the speech; great mental depression, as though upon the border of some impending evil; during this time walking was very uncertain; upon making any effort to turn to the left he was likely to fall, or stagger off of the sidewalk into the street. Whenever it was necessary to turn a corner to the left, it was necessary to walk to the end of the curb, make a slow and complete circle to the right the whole width of the sidewalk, and then go ahead again.

"In another case, Mrs. W——, the symptoms followed an attack of erysipelas, and for two days and nights there was frightful headache, the patient remarking as though her head was in a vice, the pressure being upon each temple. During these forty-eight hours there was constant nausea, with frequent vomiting and retching, nothing but froth and mucus coming from the stomach, as there was no food taken during this time, the pain meanwhile being most severe upon the right side of the head. The patient was confined to the bed ten or twelve days. The dizziness was so great that she could not sit up, even in the bed, without producing faintness and vomiting. During all this time there was a constant roaring in the head as of a waterfall, a ringing in the ears, more especially the right, together with pain, and before each eye a large wheel, revolving rapidly, with broad spokes with deep notches between, the wheels apparently approaching each other and then receding constantly. Upon looking up she could read the print in a newspaper, but upon looking down everything was a blot and dizziness.

"This case, unlike that of Mr. J——, had a recurrence of the dizziness upon looking or turning to the right, even lasting some days after she was able to be moved from the bed. There was a constant and severe pain at the back of the neck, more especially upon the right side, together with a fulness and throbbing which could be seen and felt; the pain extended down the whole length of the spine, and alternated with the dizziness. When the head was most dizzy the pain in the back was less severe, and *vice versa*.

"In another case, that of Mrs. H——, the dizziness was always accompanied with a dull, aching pain in the left lung. The pain did not interfere with the breathing, and upon auscultation the lung was found to be free from disease of any kind. The pain in the lung always disappeared with the dizziness. In this case the patient was often awakened suddenly in the night, the dizziness and pain already present, when the bed, room, and furniture would apparently be pitching about in the greatest confusion. These distressing symptoms would last from one-half to one hour and then subside, leaving a peculiar feeling in the head not to be described, with soreness and pain, as though from some severe side pressure. This also would wear off in the course of twenty-four or forty-eight hours, sometimes, but not always, followed by vomiting. During the continuance of the symptoms no food could be taken or retained by the stomach.

"In another case, that of a gentleman, Mr. H——, aged

fifty-five, the attack would occur so suddenly that on several occasions he fell upon the floor, and was unable to arise for some time. I might go on and mention a number of other cases, each having some peculiarity of its own in common with the general symptoms, but I have already exceeded the original limit of this paper.

"Now for the treatment. After trying the various remedies recommended in the text-books, and not deriving the results I desired, I applied *blisters* to the *neck*, and in some cases, when the pain in the back was severe, all the way down the spine. The result of the blistering was very satisfactory, improvement beginning almost immediately, and my patients are to-day attending to their ordinary duties. Of course I did not neglect but continued general treatment. I think that the use of blisters in these cases cannot be too highly recommended, even though we cannot explain their *modus operandi*. In the treatment of these cases I used a *blister* which does not contain cantharides, and therefore is free from the exceedingly unpleasant complication of strangury. These blisters, or 'issue plasters,' as they are called, have proved very satisfactory in my hands, not once producing an unpleasant symptom—they blister quickly, without pain of any consequence, and by returning them to the blistered surface an issue can be kept up for any desirable length of time—and, as I remarked above, without the slightest fear of strangury occurring as a complication. I greatly fear that with the general practitioner the beneficial effects of judicious blistering, in these and other similar cases, is oftentimes lost sight of in dread of the unpleasant symptoms produced by cantharides."

THE ETIOLOGY OF HÆMATOMA NEONATORUM.

Dr. John Parmenter, of Buffalo, writes: "The synopsis of Dr. Küstner's views upon the etiology of hæmatoma in the new-born, published in The Medical Record (May 15th), induces me to mention a case occurring in my own practice, some eighteen months ago, which seems to support this theory. The child was of average size, and was born three hours after the beginning of regular pains. The labor was very easy, requiring no external aid of any kind. Almost immediately after birth a tumor developed over the sterno-cleido-mastoid muscle, and soon reached such proportions as to occasion severe dyspnœa. This condition lasted for about one week; after which time absorption began, causing the disappearance of the tumor in about three weeks. The child died some months later of entero-colitis. The total absence of any force in the delivery of this child leads me to regard Dr. Küstner's torsion theory as a very probable one."

SUDDEN DEATH FOLLOWING EXCISION OF THE UVULA.

Dr. W. W. Tompkins, of Charleston, W. Va., reports the case of a negro, thirty years of age, who asked his advice on account of a constant tickling in the throat and slight difficulty in breathing. Examination showed the uvula greatly elongated and projecting down below the base of the tongue. Its removal was advised, but the patient said he was afraid of an operation, and accordingly a gargle was prescribed; later in the day, however, the patient sent for Dr. Tompkins, and requested him to cut off the uvula. A small portion was accordingly removed, and the patient expressed himself as feeling better. In a few minutes the man's room-mate ran into the doctor's office and said the patient had dropped dead. There had been but little hemorrhage, and the operation had seemed to relieve the symptoms. But the patient had, on the occasion of his first visit, said that he had heart disease, although, as he was wet and dirty, having worked at ditching all night, no physical examination was made. Dr. Tompkins had thought of giving ether, as the patient was so nervous and fearful, but congratulated himself afterward on not having done so. Death was evidently due to cardiac disease, the immediate cause probably being the excitement caused by the operation. The patient's father had dropped dead under somewhat similar circumstances three years before.

A NEW METHOD FOR THE REMOVAL OF INTRAMURAL UTERINE TUMORS.

Dr. O. Stroinski, of Chicago, writes: "After severe losses in removing intramural uterine tumors through the abdominal or vaginal walls, I decided either to abandon entirely any attempts of extirpation of these tumors, or to find a method that would give a reasonable show of favorable results. Lately I have found that continued intra-uterine injections with diluted subsulphate or sesquichloride of iron produce a discharge of mucous membrane, as well as of muscular stratum, and that, combined with the effect of contractions always evoked by these injections, causes the intramural tumors to be forced into the uterine cavity, where they may easily be seized and extracted. I will give the minute details of these proceedings at another time, and will now merely formulate the conclusions which I have arrived at after a careful study and a good deal of experience: 1, Extirpation of intramural uterine tumors through the abdominal or vaginal walls is as unnecessary as it is dangerous; while, 2, there are certain procedures which always transform the intramural into an intra-uterine tumor which can be easily extirpated; 3, these procedures only should be made use of in the removal of intramural tumors, being entirely harmless, and never endangering the life of the patient nor maiming the sexual organs; 4, even the largest myoma might be easily removed by this operation; 5, only tumors situated on the surface of the uterus are excluded from this procedure. I have operated on cases in which large doses of ergot had been taken for a long time without the slightest effect, and in one case in which the tumor had existed before marriage and a child had been born without the tumor losing its size or changing its position. I will furthermore say, that I have operated in private as well as hospital practice, so that there cannot be any doubt of the reality of the facts."

COCAINE IN SEA-SICKNESS.

Dr. Charles F. Mason, Acting Assistant Surgeon, U.S.A., writes: "In a recent trip from New York to Norfolk by sea, I had an opportunity of observing, both in myself and others, the remarkable curative effects of cocaine in sea-sickness. The cases treated, four in number, were all adults, two being physicians. The symptoms in all were extreme nausea and great depression; no vomiting. Cocaine hydrochlorate, in doses of twelve minims of a four-per-cent. aqueous solution, afforded almost complete relief in from fifteen to thirty minutes, so that the three patients who were below were enabled to dress and come on deck. After a second half-grain dose (two hours' interval) the relief was complete and permanent."

A CASE OF TEMPORARY AMNESIA.

Dr. George White, of Chicago, writes: "Apropos of the case of temporary cerebral 'absence' of the stenographer in the late Chicago, Rock Island & Pacific Railroad train robbery and murder of the express messenger, I have to report a somewhat similar case. It may be of some psychologic interest. On April 12, 1886, I was hastily summoned to 1515 West Monroe Street, this city. There I saw a boy, ten years of age, apparently laboring under acute mania or aggravated hysteria. The case was characterized by delusions and hallucinations; incoherent speech; laughing and crying at regular intervals;

submissiveness and violent attempts to injure others alternating; pupils dilated; no elevation of temperature; motions at irregular times inco-ordinate; passage of urine free; bowels regular. No depressions or injury of any kind about the head could be found. There were no injuries received at any time, so far as I could learn; no falls; in fact, the evidence as to injury was negative in every way. Pressure along the spine elicited no tender points, but bilateral pressure at the third lumbar vertebra caused the knee-joints to yield. Prepuce abnormally long and adherent entirely around the corona glandis, and attempts to minutely examine the malformation were met by violent resistance. He never had any trouble with the urinary organs, and the parents had never noticed this peculiarity till I called their attention to it. He had always enjoyed good health hitherto, and the present trouble seemed instantaneous in development. No nervous history in family aside from slight hysteric attacks in mother and chorea in an aunt on the mother's side of the family. The father claimed invariable good health; rest of family in good health. I ordered chloral hydrate and bromide of potassium, and the next day was surprised to find my patient much better. On the third day he was entirely well—the pupils were normal; there was no response to lumbar pressure, and the mind was perfectly clear. Again seeking for the origin of this peculiar set of phenomena, I learned that as the boy was returning from school, at noon, a dog jumped at him, but did not bite. The scare was followed by unconsciousness in five or ten minutes after reaching home. His memory was blank as to the events of the afternoon and night of that day. Up to the present time he is as healthy and mentally as bright as the rest of the children."

HYDROGEN PEROXIDE IN DIPHTHERIA.

Dr. William B. Clarke, of Indianopolis, writes that he has seen such wonderful results follow the use of hydrogen peroxide in diphtheria that it would be hard to induce him to use any other local remedy in that disease. After its application to the false membrane, the corroding effect is so great that the mouth and nose are filled with the froth. The membrane is quickly dissolved and easily expelled.

LACK OF DEVELOPMENT IN A FEMALE SEVENTY-SEVEN YEARS OF AGE.

Dr. F. O. Manning, of this city sends us the following case: He was called to see an old woman aged seventy-seven, but on his arrival found her dead. The woman was the size of a child aged eleven, though her face was that of an aged person. She had been failing in health for the past three or four years, but had retained her faculties until within the past two years, when she had become demented. During the past few months her skin and its appendages had become extremely sensitive, and any attempt on the part of her relatives to cut her nails excited a violent fit of screaming. Her height was four feet three inches. The hair was dark brown, and only very slightly tinged with gray, and had, before being cut, reached nearly to the floor. There was no hair on the pubes or in the axillæ, and there were no breasts nor even any sign of a nipple. On opening the abdomen, the spleen was found to be small and presented a granular appearance. The kidneys were situated a little higher than normal, and were very small, being no larger than would be those of a child aged eleven. They presented all the appearances of a long-standing nephritis, and the bladder was also the seat of a chronic inflammation. The uterus was very small, hardly larger than an infant's. The ovaries were in a very rudimentary state, and wholly undeveloped. The vagina was occluded at its lower portion, but was patent at its upper part near the uterus. The woman had never menstruated. The other organs were not examined, owing to the strenuous objections of the relatives.

Progress of Medical Science.

A Peculiar Fracture of the External Malleolus.—Dr. Léon Le Fort describes, in the *Bulletin Général de Thérapeutique* of March 15, 1886, the following case: A young man, aged eighteen, slipped and wrenched his left foot severely. When seen the following morning there was a swelling over the external malleolus, extending somewhat over the anterior surface of the tibio-tarsal articulation. The same region was the seat of a faint ecchymosis, but there was no discoloration of the outer border of the foot below the malleolus, as is ordinarily the case in fracture of this process. There was no tenderness on pressure, except on the anterior edge of the malleolus and at the tibio-fibular joint. Adduction of the foot was the only movement which caused any pain. The writer at first supposed that there was a sprain at this articulation, and ordered massage for its relief, but finding that the patient was still unable to bear his weight on the injured foot, he proceeded to make a more careful examination. This showed him that there was a fracture of the malleolus, a small fragment being torn off from the surface of this process by the action of the inferior tibio-fibular ligament put violently on the stretch. The sliver of bone torn away was from the anterior border of the malleolus. Two other exactly similar cases afterward came under his observation. The sole treatment consisted in the application of moist compresses and in rest.

Rupture of the Bladder.—Dr. A. Pousson, of Paris, has written a paper on the pathogeny of two little-known varieties of rupture of the bladder, and on the means of preventing such forms of this lesion. An endeavor is made to prove that, in addition to cases of traumatic rupture and cases of spontaneous rupture—the walls of the bladder in this latter class being invariably diseased—there are, firstly, instances in which the healthy viscus distended by urine bursts under the influence of contractions of the abdominal wall during some violent voluntary or involuntary movement; and, secondly, cases in which the bladder, having undergone a morbid change, increasing rather than diminishing the resistance of its walls, may rupture through its own contractions. A bladder with hypertrophied walls may, it is argued, be ruptured by the action of its intrinsic muscles in retention through urethral stricture, and also through vigorous and irregular spasmodic contraction of these muscles, excited by the contact of fluid injected, even in small quantity, into the vesical cavity. Four recent cases are reported by the author, in which the hypertrophied and irritable bladder was ruptured during the injection of fluid, as a preliminary, in three of the instances, to lithotomy, and, in the fourth, to simple cystotomy. Dr. Pousson proposes the following classification of ruptures of the bladder, which will, he thinks, include every possible form, and remove all uncertainty on the etiological interpretation of any given case. He would divide these injuries into ruptures of the healthy bladder, and those of the diseased bladder (pathological ruptures). Under the former are included traumatic ruptures by direct and by indirect causes, and ruptures by effort. The latter, or pathological class, include ruptures by perforation, and ruptures by muscular contraction of the vesical walls. The following practical teaching is derived by the author from these considerations. In the majority of cases of rupture of the bladder by the contraction of the abdominal muscles, the injury is produced during the administration of an anæsthetic. It is advisable, therefore, before giving chloroform or ether to empty the bladder. In most instances hitherto recorded of this kind of vesical rupture, the patient was suffering from very tight stricture of the urethra. In such cases it will be advisable to remove the urine by puncture. It is held that in future a prudent surgeon, before giving an anæsthetic to any patient on whom it is proposed to perform, for example,

external urethrotomy for organic stricture or rupture of the urethra, ought always (if the bladder be much distended) to perform hypogastric puncture in order to avoid any risk of rupture of this viscus by contraction of the abdominal muscles. The demonstration of the possibility of rupture of the bladder by the action of its intrinsic muscles indicates the dangers of practising forcible injections for the purpose of re-establishing the capacity and tolerance of small and irritable bladders. It is especially in cases requiring lithotrity and suprapubic lithotomy that vesical hypertrophy and irritability are most liable to be met with. The administration of chloroform in large doses is the sole means, Dr. Poussin states, of abolishing the contractions of a bladder, whether healthy or diseased, excited by the injection of fluid.—*Revue de Chirurgie.*

Compound Fracture of the Patella, with Wound of the Knee joint.—The following case, occurring in the service of Mr. Mayo Robson, at the Leeds Infirmary, is reported in *The Lancet* of May 8, 1886: J. P——, aged thirty-five, a coachman, was kicked by a horse on the right knee on December 2, 1885, and admitted two hours afterward, when there was found to be a wound of one and a half inch over the front of the right patella, which was the seat of a starred fracture; a probe passed freely into the knee-joint. It was syringed well with perchloride solution (1 in 2,000) and dressed antiseptically, no drainage-tube being employed; the limb was fixed on a back-splint. Temperature normal throughout. Dressed for the first time on December 12th, ten days after the accident, when the wound was healed. Made an out-patient December 29th, plaster-of-Paris having been applied from the calf to the middle of the thigh, this being left on, to steady the limb, for three weeks. In March, 1886, he was quite well and able to perform his duties perfectly, the injured knee-joint moving as freely as the uninjured one.

A Bloodless Birth.—Under this title, Dr. G. W. Crider reports, in the *Cincinnati Lancet and Clinic* of May 15, 1886, the case of a woman, nineteen years of age, pregnant with her second child. The bag of waters broke early in the day, but labor did not come on for some time after. It then proceeded regularly, but after the expulsion of the child no hemorrhage appeared. The cord was only about one-third of the usual size, and was nearly bloodless. In about fifteen minutes after the birth of the child pains came on, and in about twenty minutes the placenta was expelled, with very little assistance. Judging from the stain on the linen, there was not to exceed more than a half-ounce of blood. About twenty-four hours after the birth of the child she began to have a discharge of blood, and not more than women usually have at their menstrual periods; it continued two days, then began to decrease, and in six days all discharge ceased, and she felt abundantly able to get up and go to work. The child was living and healthy.

Progressive Muscular Atrophy Beginning with the Lower Extremities.—Charcot and Marie describe a particular form of progressive muscular atrophy, which begins by affecting the feet and legs without any change in the hands and arms until after the lapse of some years. In this special form there is a relative integrity of the muscles of the root of the limbs, or at least they retain their normal condition longer than those of the extremities. The muscles of the trunk, shoulders, and face remain intact. In the muscles becoming atrophic there are fibrillary contractions, and there are vasomotor troubles in the segments of the limbs affected. There are no noteworthy tendinous contractions of the joints whose muscles are atrophied. The sensibility is usually unaltered, but cramps are frequent. There is reaction of degeneration in the atrophic muscles. The affection commonly begins in youth, often among brothers and sisters, and is sometimes hereditary.—*Revue de Médecine*, No. 2, 1886.

Puerperal Fever and Antisepsis.—M. Herrgott, of Nancy, in a communication to the Paris Academy of Medicine, mentions the cases of two women who had been confined in the same ward. In spite of the employment of the most rigorous antiseptic measures, one, who was greatly depressed physically and morally, was attacked by puerperal fever and succumbed in three days; while the other, who had a very severe labor, entirely escaped the infection. From these facts he deduces the suggestion that, however valuable and true the doctrine of microbes may be in the generality of cases, it is not capable of explaining all the facts of infection. "Too absolute, too general rules lead observers to neglect an essential element in diseases—the patient."—*The Lancet*, May 8, 1886.

Topical Applications of Bacterium Termo in Lupus.—Dr. J.V. Bellaserra writes in the *Revista de Ciencias Médicas* of May 10, 1886, that he has made some essays in bacteriotherapy for the cure of lupus vulgaris. He first made a number of linear scarifications over the diseased surface, and then applied a layer of absorbent cotton dipped in broth containing a pure culture of bacterium termo. This was covered with a piece of gutta-percha tissue, the whole being held in place by adhesive plaster. The application was renewed every twenty-four hours, the scarifications being made, however, only every second day. The patient was still under treatment, and the experiment had not been continued long enough to obtain any definite results.

Tender Points in Chorea.—Marie draws attention to the fact that in the true chorea of Sydenham tender points have been described over the spine, the thorax, and the abdomen. In addition to these, however, he has noted a number of cases in which there was tenderness over the ovary also, and that this is present on the same side as that on which choreic movements first appeared.—*Edinburgh Medical Journal*, April, 1886.

Fracture of the Coracoid Process of the Scapula.—Dr. L. E. Borcheim reports the following case in the *Atlanta Medical and Surgical Journal* for May, 1886: A man, aged sixty-six, while walking the street was struck full on the right shoulder by a runaway horse, being lifted bodily and violently thrown against an iron column. He complained of severe pain and said his arm was broken. Manipulation about the coracoid process was exquisitely painful, and some crepitation was made out, but there was very little displacement, owing to the strong ligamentous fibres which are inserted into, and distributed over, this process. The treatment consisted in relaxing the pectoralis minor, coraco-brachialis, and biceps, which was accomplished by placing the arm in a large triangular sling, flexing the forearm on the arm, and keeping it close to the chest by a turn of a roller bandage.

Salol.—This is a new preparation, possessing antipyretic and antiseptic properties, discovered recently by Professor von Nencki. It is a combination of salicylic acid and carbolic acid, a salicylate of phenol. It is a white powder, rather greasy to the touch, of a faint, aromatic odor, and almost tasteless on account of its insolubility in water. It is, however, soluble in alcohol. Professor von Nencki has experimented on animals with salol, and finds that the entire quantity is excreted in the urine under the form of urate of salicyl and sulphophenol, there being thus a simple decomposition of the salt in the organism without any modification of its constituents. It was found that it was the pancreatic fluid which effected this decomposition, as the salol was immediately broken up into its constituent parts when mixed with chopped-up pancreas. This fact of decomposition occurring in the duodenum rather than in the stomach would account for the absence of nausea and other disagreeable gastric symptoms. This experimenter

also found that a dose of one drachm *per diem* was well borne by man. At a meeting of the Medico-pharmaceutical Society of Berne (*La Semaine Médicale*, April 14, 1886), M. Sahli related his experience with the new drug, and said that he had taken as much as two drachms in a day without experiencing any disagreeable effects, although some of his patients had noticed a very slight ringing in the ears after large doses. He was in the habit of giving it in doses of one and a half to two drachms in the course of the twenty four hours, and never had any serious complaint from his patients. It colors the urine almost black, just as carbolic acid does—indeed, it contains no less than thirty-eight per cent. of carbolic acid. M. Sahli had tried salol in all forms of rheumatism, and had always found it to act at least as well as salicylic acid, and he thought the fever was reduced even more rapidly, possibly by reason of the phenol which it contained in such large proportion. One case of chronic urticaria which had resisted every kind of treatment was quickly relieved by salol, as were also several cases of obstinate suborbital neuralgia. This drug is also, the speaker asserted, a powerful antipyretic. It is given for this purpose in the same doses as for rheumatism—thirty grains three or four times a day. In one case of phthisis he saw a sudden fall of 7°, from 103.5° to 96.5° F., with no unpleasant symptoms following, after a single dose of thirty grains; he does not, however, advise the unrestricted use of salol, or of any other antipyretic, in phthisis. The antiseptic properties of salol are well marked, and it possesses the advantage, with iodoform, of not being soluble in water, and hence of not being readily washed away with the secretions. The speaker had used it with good results in ozæna and otorrhœa, and thinks that the powder suspended in water might be used with advantage as an injection in gonorrhœa. By reason of its antiseptic properties, also, it is indicated in intestinal catarrhs, in typhoid fever, cholera, etc., and the speaker thought it might be given with advantage in diabetes, in which both salicylic acid and phenic acid were often prescribed. He urged his hearers to make trial of salol, and assured them that the results obtained would prove most satisfactory. It possessed the great advantage over salicylic acid in being tasteless, and in not causing nausea or other unpleasant effects. Other speakers at this meeting confirmed the statements of M. Sahli concerning the value of salol, and all united in recommending more extensive trials of the drug in rheumatism, fevers, and septic diseases. It was spoken of very highly also as a dentifrice in order to prevent caries of the teeth.

FOUR METHODS IN WHICH ARTICULAR CARTILAGE MAY BE DESTROYED.—At a recent meeting of the Medical Society of Victoria (*Australian Medical Journal*, March 15, 1886) Professor Allen presented a series of specimens illustrating some of the modes in which the cartilage may be destroyed in disease of the articulations. 1. The head of the femur from a case of osteitis. The nutritive relations between the articular lamella of bone and the cartilage were arrested, and the latter was separating in large flakes. In the acetabulum the cartilage had disappeared, the bony floor of the cavity was necrosed throughout its entire thickness, and was breaking up into fragments. There was extensive suppuration in and around the joint, but the pus had not yet made its way into the obturator internus, the periosteum over the pelvic surface of the floor of the acetabulum not being perforated. Such a process of stripping of cartilage almost *en masse* is rarely seen. 2. The medio-tarsal joints denuded of cartilage by intra-articular suppuration, originating apparently in suppurative periosteitis of the calcaneum and cuboid. In this form the cartilage first becomes swollen, soft, and succulent, and of an opaque grayish color; then the surface becomes filamentous by the unequal process of softening, and gradually the whole thickness of the cartilage, or of portions of it, may be removed, the changes in the subjacent bone being relatively insignificant. 3. The much slower process seen in many cases of chronic synovitis was exemplified by specimens of protracted disease of the knee and ankle. Here the synovial membrane becomes hyperæmic and swollen, densely infiltrated with leucocytes, and at last is practically composed of granulation tissue which may or may not secrete pus. The more rapid the disease and the greater the hyperæmia, the more abundant will suppuration be; but in chronic cases, with scarcely any hyperæmia and a minimum of swelling, fringes of moderately vascular granulation tissue may form without suppuration. It is in these very chronic cases that the changes in the cartilage are best seen. In the ankle exhibited, little, gray, fleshy processes were slowly growing from the edge of the synovial membrane over the cartilage, which itself was as yet little altered. But with the continued growth of these highly cellular processes the cartilage beneath becomes eroded, literally eaten away, the destructive action being patchy or general, according to the distribution of the cellular ingrowths from the synovial membrane. In relatively acute cases the process is modified by the free formation of pus, and in very acute cases there is no time for the development of the cellular ingrowths. 4. This variety of destructive change in the cartilages was illustrated by various joints of the tarsus from a case of chronic osteitis. The cartilages become pale pink, either uniformly or in patches, and are gradually replaced by granulation tissue growing slowly from the medullary substance in the Haversian canals of the subjacent bone. As the process of replacement progresses, the surface of the cartilage becomes more distinctly vascular and soft, so that the finger-nail readily indents it, and the granulation tissue may even form slightly elevated ruddy patches in the midst of the pinkish less altered cartilage around. These four varieties of destructive change in cartilage are comparatively seldom seen in pure forms in the post mortem room; in cases which run to amputation or to a fatal issue acute inflammations have often alternated with the more chronic processes, and synovial, periosteal, and endosteal lesions have accumulated themselves upon one another. The speaker exhibited a foot, as an instance in point, in which the medio-tarsal joint was utterly disorganized by suppuration; the periosteum around the os calcis was thickened and softened, readily peeling from the subjacent bone, and at parts separated from it by abundant pus; the ankle showed the slow growth of cellular processes over the cartilage, apart from suppuration, while the anterior tarsal and tarso-metatarsal joints exemplified in different degrees the development of granulation tissue from beneath the cartilages. The processes thus described are quite distinct from the gradual erosion of cartilage which occurs apart from inflammation, especially in advanced age; and they are also distinct from the changes included under the title of chronic rheumatoid arthritis. It must be remembered, however, that the eburnation of the articular surfaces and the growth of osteophytes, so characteristic of rheumatoid arthritis, may be variously complicated by the various inflammatory processes described above, and, if the early stages of eburnation could be observed, it is probable that the slow development of a granulation tissue from the subjacent bone, and its slow conversion *pari passu* into ivory bone, would be the true pathological change, modified by imperfect ossification of the granulation tissue on the one hand, and by intercurrent attacks of synovitis on the other. The close anatomical relations between cartilage, synovial membrane, periosteum, and medullary osseous tissue are now well understood; the gradual transition of articular cartilages at their edges into the connective tissue of the synovial membranes suffices to explain some of the differences which are so often seen between the lesions at the margins and those toward the centres of articular surfaces, while the varying degree of coaptation, pressure, and attrition of the articular surfaces may explain other differences.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 19, 1886.

LITERARY RECREATION FOR MEDICAL MEN.

THE recent publication in England, by men of note, of lists of the best hundred books for general reading, has excited general interest. This interest has been shared by all who have any acquaintance whatever with literary matters. Certainly, all possessors of or aspirants for literary taste must look upon this publication with commendation. In these days a purely literary publication from the pen of a medical man is no rarity. The subject, therefore, intimately concerns our own profession. As might be expected, the variety of books named in the published lists is very great. The latter have all been compiled by men of a distinctively literary reputation. On these topics as well as on all others, a man's judgment is largely determined by his occupation. A physician has very little time in his student days to dwell upon mere literary style. He is after facts. The wide extent of ground which must be covered, as a matter of routine, is so great that he is effectually debarred from systematic outside reading.

Unless a taste for literature is acquired before commencing medical study, the chances are that it will never furnish a means of enjoyment in leisure moments. These are few and far between. With most men the struggle for a competence, with its attendant mental and physical exhaustion, forbids much literary recreation. When in later years a competence is assured, and some of the more onerous professional duties can be laid aside, the chances are that the long slumber of literary taste will not be shaken off.

Those physicians who suffer least from this form of mental inactivity are those whose taste or occupation lead them to contribute to their own professional literature. At the present time, writers in any professional field have a critical audience to please. It may be disputed whether or not the ranks of the medical profession contain relatively more literary men than they did fifty years ago. But they do contain more men relatively who can appreciate a true literary style. Particularly is this the case in regard to the terseness of any article. He alone receives consideration and makes a lasting impression who clothes his ideas in brief, yet vigorous language. The reading of long articles is left to the few. Prosiness and prolixity in writing on professional topics have received their death-blow. Brevity is the soul of influence as well as of wit.

One thing is noticeable in those whose occupation may not be a literary one, but who yet find recreation in literature. It is that this recreation comes more from the thorough perusal of one author than from the desultory perusal of many. A well-thumbed Shakespeare may speak far more eloquently of its possessor's literary activity than shelves of rich editions. As we con the pages of the older novelists and dramatists, we perceive a most wonderful insight into the relations between mind and matter. Perhaps writers in these latter days have never equalled their predecessors in this respect. Who does not find in Shakespeare that faculty of insight which may find its highest expression in solving the mysteries of obscure bodily disease? Or who cannot see portrayed in some of Dickens' doctors the foibles, somewhat exaggerated perhaps, of his professional neighbor? If he be frank enough he may see reflected some of his own.

The physician is the last for whom a list of best books may be made out. The scientific aspect of medical work is now many-sided. The paths it suggests lead off in many directions. Each one can be followed with both pleasure and profit. But even these are hardly recreation enough for the physician. That comes only when he can step out of his professional environment. For the time being he must cease to be a physician.

There can be literary work and there can be literary recreation. The two are distinct. Consideration of medical questions of scientific import necessitates the former. The latter comes from outside the domain of professional work. In the former one deals entirely with hard facts. Reason is the motive power, the working force. In the latter, imagination, "the world's sweet inn from care and wearisome toil," comes into play. It conduces to a well-rounded mental growth. Then literary work proper is resumed with renewed zeal. We are borne along with the zeal coming from the power of new ideas, our mental processes are more vigorous and more logical. We feel that our recreation has benefited us. We realize that "the best man is he who most tries to perfect himself, and the happiest man is he who most feels that he is perfecting himself."

THE FURTHER EMPLOYMENT OF BACTERIO-THERAPY.

WE have already called attention to the novel method of treating pulmonary tuberculosis proposed by Professor Cantani, of Naples, viz., the inhalation of fluids containing the *bacterium termo*. Further trials of this have been made by Dr. Brehmer at his hospital at Görbersdorf (*Allgemeine Med. Centr.-Zeitung*, 1886, No. 28), and recently again by Dr. Laaser, of Breslau (Ibid., No. 34). Dr. Laaser states that among seven patients whom he treated by the new method two were improved and one was cured. The first case in which there was improvement was that of a young peasant woman, who was treated also by lavage and antipyrin. Some of the improvement was ascribed to these latter measures. The second patient was in the third stage of phthisis and bedridden. After the inhalations she was able to get up and go about, her temperature fell, and her bodily strength increased. She then had an attack of localized pleurisy, and as the inhalations caused vomiting they were discon-

tinued. The third and "cured" case was that of a young laborer, who, when admitted to the hospital, was found to have a large cavity in the right lung. His evening temperature was 39.5° C., and the expectoration was copious and fetid. Inhalations of turpentine and carbolic acid lessened the odor, but did not relieve the fever, and the patient's strength continued to fail. Tubercle bacilli being found in the sputa, he was placed upon daily bacterial inhalations. The odor of the sputa soon disappeared, as also did the bacilli, the patient's condition steadily improved, and in four weeks he was discharged cured!

THE PROPHYLACTIC VALUE OF CHOLERA INOCULATION.

We referred in these columns, under date of October 3, 1885, to the statistics of Ferrán's preventive inoculation during the cholera epidemic in Spain last summer. The figures there given were of the results of cholerization, as the author of the method terms it, in seven small towns only. We have just received a pamphlet embracing the statistics of twenty-one additional places. The reports are for the most part prepared in the same careful manner as were the others, being written by the local physicians, and certified to as correct by the alcalde and other municipal officers and the parish priest, the statements being furthermore sworn to before a notary. We must, therefore, accept the figures as correct, and free from any suspicion of fraud or of having been twisted to bolster up Ferrán.

Four of the towns were not visited by the cholera at all, and of these we shall speak later. In two others the statistics are not complete, the compilers having omitted to give the population in one instance, and the number of individuals inoculated in the other. There remain fifteen communities concerning which the information given is satisfactory, and from which we can draw some conclusions as to the utility of the method. The total population of these fifteen towns amounts to 92,510, of which number 8,238 were inoculated by Ferrán or his assistants, leaving 84,272 unprotected by cholerization. Of the non-inoculated 6,014 (or 7.13 per cent.) were attacked by the disease, and of this number 2,467 (or 41.02 per cent.) died. Of the inoculated 123 (or 1.49 per cent.) were attacked, and of these but 25 (or 20.33 per cent.) died. Putting together the two sets of statistics collected from twenty-two towns, with an aggregate population of 134,151, we find that of the non-inoculated 7.199 per cent. were attacked by the cholera, while of the inoculated only 1.204 per cent. suffered. The mortality of the disease was, of the non-inoculated 43.31 per cent., and of the inoculated 28.17 per cent. of those attacked.

Several instances of apparent protection by inoculation are mentioned which are rather striking, though not necessarily conclusive. In Adzaneta the family of the municipal secretary, Sr. Plá y Plá, was composed of five individuals, four of whom submitted to cholerization. These four passed through the epidemic without suffering from any symptoms of the disease, while the one who was not inoculated was stricken down by cholera and died. In Alcalá de Chisvert there were four physicians at the outbreak of the pest, and naturally they were exposed to constant danger in the discharge of their duties. Three of these, who had been inoculated, passed safely through the epidemic, while the fourth, who had not been inoculated, died. In four families in the same town one member of each, and that the only one not inoculated, died of cholera, while the others, who had submitted to the operation, escaped. Several precisely similar cases are related as occurring in other places.

It has been said by many that the inoculation by means of the virus prepared by Ferrán, if it had any effect at all, would expose those operated upon to even greater danger. But this assertion would seem to be disproved by the facts presented in these reports. There were four towns in which no cholera appeared during the summer, although, in anticipation of an attack, inoculations to the number of 5,504 were made. If the inoculation were likely to cause cholera in the individual operated upon, it would hardly be possible for so great a number to escape. From one of these towns, La Roda, seventeen individuals went into an infected district. Nine of these had been inoculated, and eight had not. None of the nine suffered during their exposure, but six of the eight non-inoculated persons were seized with cholera and two died.

In most of the reports it is stated that no symptoms other than those commonly following inoculation were caused by the operation, and in only four cases out of the many thousands did abscesses at the point of insertion of the virus occur. It would thus seem to be proven by these statistics that the inoculations are harmless, or at least no more dangerous than hypodermic injections of some inert fluid. And in view of this fact, the results are such as to offer encouragement for further trials. The cable reports that the Spanish Government has granted permission to Ferrán to continue his inoculations this summer, should apparent necessity for them arise, and we may therefore expect even more extensive experiments to be made, if cholera revisits the country. We sincerely hope the scourge will not return, but should it do so, we shall be interested in studying the results obtained by the method, and shall hope to present them in due time to our readers.

THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

We have just received the Seventeenth Annual Report of the Physicians' Mutual Aid Association, whose benefits and work we have heretofore often commended to the profession of New York City and Brooklyn. We invite especial attention to the fact that the Trustees have completed arrangements for extending its operation to the entire State, which cannot fail to largely increase its usefulness. Any member of the regular profession under fifty years of age and in good health is eligible to membership. Its life-insurance feature is valuable, but no less so is the benevolent part of the work, whereby a sick member, or the family of a deceased member, may be assisted from the interest of the permanent fund, which has now increased to nearly $14,000. The latest donation to this fund was from Mrs. Austin Flint, amounting to $450. The cost of becoming a member is $3, including the first assessment, and we believe the present

management will not be disappointed in hoping for the co-operation of the entire medical fraternity of the State. Its past history furnishes every guarantee of successful administration in the future.

Application for membership may be made to the Secretary, Dr. W. Y. Alexander, Station' M, New York City, or to any of the following gentlemen who have already been appointed Medical Examiners: Dr. F. H. Potter, of Buffalo; Dr. H. Flood, Elmira; Dr. S. Ely, Newburg; Dr. W. S. Ely, Rochester; Dr. W. W. Hewlett, Babylon; Dr. C. M. Wilson, Gouverneur; and Dr. W. E. Ford, of Utica.

THE DELICACY OF THE SENSE OF SMELL.

The sense of smell is probably the leading sensorial endowment in most insects, and it does for them what sight and hearing do for man. Its potency in helping along intelligence is very great, since we know that, mentally, insects stand at the head of the invertebrate, as man stands at the head of the vertebrate, world. The sense of smell is probably acute in some fishes, as, for example, the shark; this is the most active, if not the most intelligent, of fishes, and it has an olfactory mucous membrane which, if spread out, would cover some twelve square feet. The sense falls in value in the amphibia, reptiles, and birds, but rises again in the mammalia, though not in proportion to intelligence. Its extreme acuteness in the dog, the most intelligent of animals short of quadrumana, is well known. In man the sense of smell is subordinate, and even rudimentary. Olfaction adds to man's enjoyment, preserves him from some dangers, but does not very much extend his knowledge of his environment.

Yet, despite the comparative insignificance of this sense in man, its delicacy is most marvellous, and by it we can appreciate more minute subdivisions of matter or the impact of more infinitesimal molecular vibrations than by any other of the avenues to the brain.

Professor Valentin has made some interesting and striking experiments in proof of this. He found that a current of air containing $\frac{1}{50000}$ milligramme of bromine, or $\frac{1}{500000}$ milligramme of sulphuretted hydrogen, or $\frac{1}{2000000}$ milligramme of oil of roses, could be perceived by the sense of smell. He also determined that the amount of odoriferous air which must pass over the olfactory membrane in order to excite the sense of smell was from fifty to one hundred cubic centimetres (one-tenth to one-fifth of a pint). He calculated, therefore, that the actual amount of bromine necessary to excite a sense of smell was $\frac{1}{600}$ milligramme, of sulphuretted hydrogen $\frac{1}{5000}$ milligramme, of oil of roses $\frac{1}{20000}$ milligramme (about $\frac{1}{180000}$ of a grain).

Two recent experimenters, E. Fischer and F. Pentzoldt, of Erlangen, have found two other substances which far exceed the foregoing in their capacity for affecting the olfactory nerves. These were mercaptan (sulphuretted alcohol) and chlorphenol. They found that in air containing $\frac{1}{2000000000}$ milligramme to the cubic centimetre of chlorphenol, and $\frac{1}{20000000000}$ milligramme of mercaptan, these substances could be appreciated, and it was estimated that only $\frac{1}{4600000}$ milligramme of chlorphenol, and $\frac{1}{46000000}$ milligramme of mercaptan, is necessary to excite a sensation of smell. There exists, therefore, a substance which is so small a subdivision as $\frac{1}{2760000000}$ grain, or not quite one-three-billionth of a grain is capable of calling out a nerve impulse. This subdivision of matter is quite beyond comprehension, yet the nose alone can appreciate it. The smallest subdivision appreciable by the eye through the spectroscope is $\frac{1}{140000}$ milligramme of sodium, which is a two hundred and fifty times coarser division of matter than the minimum of odor-exciting mercaptan.

On account of the extraordinary power of mercaptan it is proposed to put it to some practical use in testing currents of air, ventilation, etc.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

We have already alluded to the plan started in practical form, by a Southern physician, of creating a Congress of American Physicians and Surgeons.

This is to be composed of the nine national associations already in existence, viz.: The Surgical, Ophthalmological, Otological, Neurological, Laryngological, Gynecological, Dermatological, Climatological, Clinical, and Pathological. The plan provides that these societies shall meet in Washington at the same time, elect a president, and have some common sessions with addresses. Each society is to preserve its own name, constitution, and by-laws, hold separate meetings, and in every way preserve its own autonomy.

The advantages of such a meeting and mingling of different societies are at once apparent. Many physicians hold membership in two of the national associations, and to them it would be a convenience. Many would feel an interest and receive benefit from attending other meetings and coming in contact with professional brethren having a different special but a common general aim.

Aside from this, a congress of the nine different special associations would bring together a body of men which would do honor to American medicine. Most, if not all, of these societies have special requirements for membership, and it is quite safe to say that they include the best men, East, West, and South, in all the different departments of medicine.

The congress will not be entirely a meeting of specialists, since such associations as the Clinical, the Surgical, and the Climatological may include general practitioners.

But, despite the attractiveness of the idea of a congress, there are some drawbacks, and it will require a great deal of assiduous work to bring it into actual existence.

Some of the associations do not care to meet in Washington, which is not a medical centre, and where a congress of postmasters would receive much more social and official attention than one of medical men—each of whom controls but a single vote.

The question of finding a time and place agreeable to all is a serious one. Yet it should not prove insuperable, and some of our associations might concede a little for a common good.

TUBERCULOSIS IN CHILDREN AND THE QUESTION OF CONGENITAL TUBERCULOSIS.

IT is generally asserted that chronic tuberculosis is a disease which is rare in early years but progressively increases in frequency. M. Jules Simon, in his "Conferences Therapeutiques et Cliniques sur les Maladies des Enfants," states that tuberculosis is rare in the first year of life; from the age of one to three it affects by preference the abdominal cavity, while from the age of three to ten one finds it oftenest in the cranial cavity; after the latter age pulmonary tuberculosis predominates, increasing in frequency with years, and attaining its maximum between the ages of twenty and thirty, or, as more recent writers have it, increasing in relative frequency even up to the later years of life.

With regard to tuberculosis in infants, and especially the question of congenital tuberculosis, Dr. W. Schwer, of Kiel, has recently (*Allgemeine Med. Central-Zeitung*, 1886, No. 6) contributed some interesting facts. Schwer's work is an inaugural dissertation, and is based on a study of the autopsies made upon infants at the pathological institute of the Kiel University. His statistics include 123 autopsies on tuberculous children made between the years 1879 and 1883, and are a continuation of Simmonds' statistics which covered the years 1873–1879. The following table shows the ages at which tuberculosis began to be observed:

Age.	Total number.	Tuberculosis.	Per cent.
Still-born	94	..	....
Under four weeks	169	..	....
Between 5 and 9 weeks	123	1	0.8
Between 3 and 5 months	144	15	10.4

Basing his opinion on the fact that no tuberculosis was found post-mortem in children under nine weeks of age, Dr. Schwer concludes that tuberculosis is never a congenital or connate disease.

The table continued is as follows:

Age.	Total number.	Tuberculosis.	Per cent.
6 to 12 months	160	27	17.65
2 years	188	49	26.0
3 years	104	47	45.2
4 years	82	27	32.9
5 years	53	20	37.7
6 to 10 years	112	40	35.7
11 to 15 years	89	28	31.5

From these figures the author concludes that tuberculosis is very prevalent in the first years of life and then gradually diminishes up to the time of puberty. Against this there will be very little dissent, but Dr. Schwer's view that tuberculosis is never congenital is not borne out either by his own statistics or those of others. It is only probable, and not certain, that the infants who died of tuberculosis at the age of nine weeks were not born with the disease. However this may be, a year ago Johne (*Fortschritte der Medicin*) reported a case of undoubted fœtal tuberculosis, and Dr. Haupt, of Soden, affirms that veterinarians have often observed fœtal tuberculosis in animals.

As to the distribution of the tuberculosis in children, Schwer analyzes 123 cases. In these there was observed tuberculosis of the liver, 104 times; lungs, 103 times; intestines, 63 times; meninges, 53 times; thyroid, 12 times; striped muscles, twice.

We cannot but think that tuberculosis exists more frequently among the children of the lower classes of Europe than among those of America. On this point, however, there are unfortunately no very trustworthy statistics, so far as we are aware.

The report of the New York City Board of Health, for the year 1875, gives the following:

Deaths from—	Under one year.
Hydrocephalus and tubercular meningitis	287
Tabes mesenterica	432
Phthisis pulmonalis	42
Total	761

This makes a mortality of 761 from tubercular disease in a total mortality under the age of one year of 8,540, which gives a per cent. of about eight. Schwer's per cent. of tuberculosis among 160 children dying between the age of six and twelve months was 17.5.

MAD KINGS.

THE late King Louis II., of Bavaria, was of a mad family. If accounts are correct, his father was of unsound mind, and his brother is known to be an imbecile.

Dr. Ball, in his "Leçons sur les Maladies Mentales," describes a form of insanity that very well fits the case of King Louis. There is, he says, a kind of maniacal excitation and disordered action of all the faculties, without any clear derangement of intelligence. Ideas are quickly flowing and exaggerated, but there is no incoherence. The patients often show a remarkable development of certain intellectual powers, especially in poetic or artistic directions. Their minds are filled with speculations and new projects, and the moral sense is greatly weakened or perverted. Dr. Ireland finds another royal illustration of this psychosis in Mohammed Toghlak, Sultan of India, in the fourteenth century; and, as we will show later, it has plainly affected one of the czars of Russia, and very likely members of other royal families.

The German writers have given to this form of insanity the name of paranoia, and this was the diagnosis made by the late king's physicians.

In earlier times there were many royal families in whom mental disease and decay showed itself. Indeed, there is scarcely a family, whose members ruled despotically for many years, in which some taint did not develop. The gradual extinction of many of these families, through the degenerative taints which have developed, has been well shown by Dr. Jacoby and Dr. Ireland. Uncontrolled exercise of power, the free opportunity for the indulgence of every appetite and caprice, seem surely to bring on disease either in the individual himself or his descendants. In modern times monarchs have to regulate their conduct and restrain their passions more than formerly, and in consequence royalty is a much more healthful occupation than it used to be.

In the Claudian-Julian family, beginning with Julius Cæsar himself and ending with Nero, we have an almost unbroken line of neuroses. Cæsar himself was epileptic, but probably the disease developed late in life, from exposure and excesses, and did not much affect his health.

Augustus, his grand-nephew, had, it is believed, writer's cramp; Julia, his daughter, seems to have been little better than a nymphomaniac. She had an imbecile son. Tiberius was a man naturally heartless, cruel, and licentious. In his later years he seems to have lost all moral sense, and illustrated the most shameless sensuality and cruelty. Caligula, reputed great-grandson of Augustus, was epileptic as a boy, badly formed and weak-minded as a man. He stuttered, was insomnic, and apparently had hallucinations. Claudius was also weak-minded, timid, and credulous, with unsteady gait, weak knees, shaking head, and dribbling lips.

In Russia, the present House of Romanoff has shown plain evidence of the development of mental weakness and defects. The sister of Peter the Great was a brilliant woman, but his two brothers were weak-minded and had physical defects. Peter himself, though a man of genius, bore traces of the family neurosis. He had, at times, convulsions, and was, when young, the victim of a morbid antipathy to the water. Peter's daughter, Elizabeth, was a dissolute and hard-drinking woman. His grandson was weak-minded, coarse, and extremely licentious. The Emperor Paul, who succeeded Catherine II., was, according to Dr. Ireland, unquestionably deranged. His whims and fits of unreason were much more coarse and brutal in their tendency than those of King Louis, but they suggest the same malady implanted on a man of less refined nature and duller sensibilities. Paul was treated finally in much the same way as King Louis, only, as the former refused to abdicate, he was summarily strangled. The House of Romanoff has improved in the last three generations, as the result, doubtless, of the constant infusion of Teutonic blood.

A study of the royal families of France and of England would bring to light some interesting neuroses, but we have said enough to illustrate our subject.

THE DEATH OF PROFESSOR GUDDEN.

AFTER all, the saddest thing in connection with the late King of Bavaria was the death of his physician, Professor Gudden. The last mad act of a selfish and useless life was to end the career of this distinguished and useful man. King Louis will be given a place in history because he was by chance a king. Professor Gudden's name will live because he contributed to science a new method of research, which has made an epoch in our knowledge of the structure of the body. The "atrophy-method" of Gudden is one now familiar to all students of medicine; it has helped immensely in elucidating the difficult problems of brain anatomy.

Professor Gudden died in the discharge of his duty, while struggling to prevent a madman from committing suicide. To his scientific honors he has added the crown of martyrdom; and so, with all the more care should his name be remembered and his memory cherished.

ONE DR. VILLAVICENCIO desires to go to New Orleans and start an institute for inoculating against yellow fever. To this the Louisiana State Board of Health object, and announce that if Dr. Villavicencio land with his microbes he will be disinfected and sent back.

News of the Week.

THE STATUE OF HUNTER.—On the 29th ult. a statue of John Hunter, "the father of scientific surgery," was nuveiled in the new Museum at Oxford by Her Royal Highness Princess Christian, in the presence of a large assemby of spectators. The statue is one of five statues, representing heroes of science, presented to the university by Her Majesty the Queen. It represents the great *savant*, with a remarkably keen and searching countenance, standing with the legs crossed and supporting himself on a pillar or post.

AUSCULTATION OF THE EYEBALL.—M. Gené has recently described to the Biological Society of Paris a new method of estimating the tension of the eyeball. This consists in auscultating the organ by means of M. d'Arsonval's telephone. The instrument is applied to the globe, and a sound, such as that of the interrupter of a faradisation instrument, made to pass; the differences of degree and intensity of the sound as perceived by the observer afford a valuable and accurate means of diagnosis. M. Gené's experiments being as yet somewhat incomplete, he hopes at some future time to lay the subject before the Society in greater detail.

PREVENTIVE INOCULATION IN YELLOW FEVER—A FRENCH COMMISSION APPOINTED.—The subject of inoculation for yellow fever, as practised by Dr. Domingos Freire, of Rio de Janeiro, was brought under the notice of the Société de Biologie of Paris at a recent meeting. M. Rebourgeon communicated the results obtained by himself and Dr. Freire in December, 1885, and January and February, 1886. The weather during these months in Brazil was intensely hot, and yellow fever prevailed severely. Of 3,051 subjects inoculated at Rio, not one had died, whereas in the same districts and houses 278 non-vaccinated had succumbed to the disease. M. Rebourgeon said that the number of the inoculated had now reached 6,000, and not one of them had been attacked with the fever; and, what was more remarkable severe cases inoculated in the second stage of the disease had all recovered. In reply to M. Brown-Séquard, M Rebourgeon said that but few foreigners were inoculated, but yellow fever is at the present time creating great ravages among the Brazilians and mulattoes; the negroes even are being largely attacked, which is a rare occurrence, and the area of the disease was extending inland from the littoral. He explained that some specimens of virus sent two years ago to M. Cornil, and found by him to be worthless, had not been sent by Dr. Freire, but by opponents to his method. He had often inoculated himself, and was so convinced of the efficacy of the attenuated virus that he had frequently offered to undergo inoculation with the yellow fever itself. He presented a specimen of the vaccine to the Society for examination. In reply to M. Maurel, he said that he had met with yellow fever at an altitude of more than seven hundred metres; and had seen many cases among emancipated negroes, although less than among mulattoes, who were attacked in about the same proportion as the whites. M. Maurel attributed the former immunity of negroes to their vegetable diet, but since emancipation negroes

had largely adopted the customs of the whites, and consumed more animal food. A commission to study the method of inoculation was appointed, consisting of MM. Brown-Séquard, Cornil, Duval, Bourquelot, and Maurel.

THE REPORT OF THE ALBUMIN TEST COMMITTEE of the London Clinical Society was recently made. In it the committee briefly reviewed the various modes of urinary testing for albumin in common use, and compared in turn Dr. Oliver's test-papers, Dr. Johnson's picric acid method, the potassio-mercuric iodide and acid, Dr. Pavy's pellets, the acid brine method, picric acid and brine, the acetic acid, and the nitric acid methods. The portability and delicacy of reaction of Dr. Oliver's papers were strong recommendations, but, apart from the question of easy carriage and compactness, the committee considered that nitric acid was most reliable and delicate. All the methods were said, however, to be respectively useful for the determination of the various proteids that might be contained in urine.

THE TREATMENT OF STRICTURES BY ELECTROLYSIS.—In consequence of a paper read upon this subject before the Royal Medical and Surgical Society recently, by Dr. Stevenson and Mr. B. Clark, much discussion has arisen, and a large number of English surgeons are testing it. A special department for this treatment has been made at St. Peter's Hospital for Urinary Diseases.

A NEW METHOD OF TREATING THORACIC ANEURISM.—Under this title Dr. Richard Barwell describes a method which he has recently employed. It consists in puncturing the sac with a hollow ivory needle, and passing through this and into the sac about ten feet of fine steel wire. This latter is connected with a galvanic battery (positive pole), and a current of nine or ten milliampères is passed through it for an hour. In the case in which this method was tried a considerable degree of firm coagulation was obtained, but the aneurism had a second sac and the patient was nearly moribund before the operation. He died a week later.

THE EXTENT OF CHOLERA IN ITALY may be gathered from the following: From May 18th to June 2d there occurred in Venice 221 cases, 110 deaths; in Bari, 59 cases, 23 deaths; in Ostuni, 13 cases, 4 deaths; in Brindisi, 5 cases, 2 deaths; in Oria, 9 cases, 5 deaths. The epidemic is growing at Venice, and about twenty cases a day are reported; the general tendency of the epidemic seems to be to progress toward the Austrian frontier.

PHILADELPHIA COUNTY MEDICAL SOCIETY AND FEMALE PHYSICIANS.—The Philadelphia County Medical Society, at its regular monthly meeting, June 2d, balloted for twenty-five candidates for membership, and elected them all except Dr. Clara Marshall, a professor in the Women's Medical College, who failed to secure the necessary two-thirds vote. Dr. Marshall's name had been proposed several times before, and the vote has always been against her. It was decided to push the prosecution of illegal practitioners, and money was contributed for that purpose. Three bogus doctors have already been sentenced to imprisonment, and fourteen more are under indictment.

DEATH OF DR. HORACE P. FARNHAM.—After a long and painful illness Dr. Horace Putnam Farnham, of this city, died on June 9th. He was born in Salem, Mass., in 1822, was graduated from Harvard University in 1843, and immediately afterward began the study of law in the office of Rufus Choate. He then went through the course of the Dana Law School of Harvard, and was admitted to the bar, but never practised. He had a fondness for medicine, and after studying for some time he entered the Jefferson Medical College, of Philadelphia, from which he was graduated in 1860. In 1861 he began to practise in this city, and has lived here ever since, always having a large and lucrative practice. Dr. Farnham was a member of many of our local medical societies.

DR. OLIVER WENDELL HOLMES is to receive the honorary degree of LL.D. from the University of Cambridge.

ANEURISM OF THE HEPATIC ARTERY.—Dr. R. Caton has reported a case of this kind to the London Clinical Society, being the eleventh case on record. The patient, a man of forty, suffered mainly from symptoms of obstructive jaundice, but he had great pain and finally vomited blood.

"THE PICTURES OF SO-CALLED CIGARETTE MAKERS that are displayed in the windows of cigar stores in this city insult hundreds of girls who make an honest living by rolling cigarettes in the factories. They are certainly a disgrace to the men who exhibit them."—*N. Y. Sun.* "Our contemporary, the *Sun*, is making war upon the indecent photographs and lithographs so plentifully exhibited in the windows of cigar stores. Its criticisms are just and proper. These pictures are becoming more and more immodest. They are not a legitimate advertisement, for it cannot be shown that they increase the sale of cigars and cigarettes; and they offend the public sense of decency."—*N. Y. Times.* THE RECORD was the first to call attention to the point made by the *Sun*; and so far as the Richmond firm then referred to is concerned, no criticism can now be made. They have removed the photographs first exhibited. Unfortunately they left an example.

A NEW SOCIETY FOR THE PREVENTION AND TREATMENT OF VENEREAL DISEASES.—The New York Society for the Prevention of Contagious Diseases has been recently incorporated, with Dr. Herman Loewenthal as President, Dr. John Alsdorf, Secretary, and John J. Bowes, Treasurer. It will establish an infirmary for the reception and gratuitous medical and surgical treatment of sufferers from these diseases, either inherited or transmitted. Incidentally the Society will oppose all measures having for their object the State regulation of vice, and by establishing sanitary surveillance without legalization do away with any excuse for such regulation. The Society's Board of Directors includes well-known physicians, lawyers, merchants, and manufacturers, among whom are Professors T. Gaillard Thomas and Alfred L. Loomis, Coroner Levy, Judge Donohue, Frederick Hollender, Vice-President Charles L. Rickerson, of the Catskill Steamboat Company; Colonel Benjamin A. Willis, and Dr. James O'Reilly, who is to be Superintendent of the proposed infirmary.

LANOLIN AN OLD REMEDY.—It appears that lanolin is not entitled to take rank among the most recent additions to the materia medica, inasmuch as Culpeper, the venerable "student in Physick," described it in his work published in 1650. This has been lately pointed out by a correspondent of the *Chemist and Druggist*, who gives the following extract: "The Way to make Œsipus.—Take wool cut off from the neck ribs, and under the pits of the forelegs of a sheep not washed, but well wearied, wash it well in warm water so long till it have left all its fatness in the water, then press it out and lay it by, let that fat and foul water be poured from on high out of one vessel into another a long time till it be froathy, then let the froath settle, and take off the fat that swims at the top, then pour the water to and fro again, till neither more fat nor froath appears, then wash the froath with the fat in clear water till it be cleansed from the dross and will not bite your tongue if you touch it with it; then keep in a thick earthen clean pot in a cold place." —*Canadian Pharmaceutical Journal.*

EXPERIMENTS WITH THE VIRUS OF RABIES.—On March 6th a man in Brooklyn was bitten by a dog; on May 14th he died, with all the symptoms of hydrophobia. Portions of the brain and cord were sent to Dr. Sternberg, at Johns Hopkins University, and this gentleman on May 17th inoculated three rabbits with the tissue by Pasteur's method. On June 2d one of the rabbits showed symptoms of the hydrophobia of rabbits described by Pasteur; on June 5th the second rabbit showed similar symptoms. Some of the same brain and cord from the Brooklyn victim was taken by Dr. E. C. Spitzka, and rabbits were also inoculated by him. So far as we can learn from published reports, the rabbits showed symptoms like those of rabies, but Dr. Spitzka believes that such symptoms of themselves prove nothing, since he caused the same by inoculating rabbits with inert material and setting up meningitis.

THE MEDICO-LEGAL SOCIETY OF CHICAGO is the title of a new medical organization which starts off prosperously with a membership of over one hundred. The Society has this peculiarity, that while its objects are primarily the study of medical jurisprudence, it also intends to afford mutual protection against blackmail suits. If any member of this Society is blackmailed, the Executive Committee of the Society will investigate the case, and if the member is innocent, defend him at the expense of the Society till justice is secured. This also applies, of course, to any so called malpractice suits if the member is innocent.

THE VERMONT STATE MEDICAL SOCIETY holds its next semi-annual meeting at Burlington, June 24th and 25th. Dr. D. G. Kemp is President; Dr. J. S. Richmond, Secretary.

BEQUESTS TO HOSPITALS.—Mrs. Silas E. Burroughs, of New Haven, has given $5,000 to the New Haven Hospital to endow a free bed, which will be used more particularly for consumptive patients. The late Christian J. Hoffman bequeaths, upon the death of his wife, $5,000 to the Philadelphia Presbyterian Hospital, with $25,000 more in case the grandson die without lawful issue.

Reviews and Notices.

MONTHLY NURSING. By A. WORCESTER, A.M., M.D., Fellow of the Massachusetts Medical Society. 16mo, pp. 250. Boston: D. W. Mason. 1886.

THIS is a manual to be placed in the hands of anyone aspiring to care for a lying-in patient. Its substance has been given in a series of lectures to the nurses at the Boston Lying-in Hospital. The book is full of sound common-sense and confines itself strictly to its subject. Its brief, terse style is just the ideal one for a manual.

VENEREAL DISEASES. By BERKELEY HILL, M.D., and ARTHUR COOPER, M.D. 12mo, pp. 132. Philadelphia: P. Blakiston, Son & Co. 1886.

THIS is a student's manual by two well known London authors, who have written a more pretentious work on "Syphilis and Local Contagious Disorders." The present is the fourth edition of the manual, conformed in arrangement to the larger work. There is nothing particularly new set forth in the manual, which, however, is clearly written. The authors are dualists. They do not accept as clearly proven the causative relation of the gonococcus (Neisser) to specific urethritis.

FIRST ANNUAL REPORT OF THE MAINE STATE BOARD OF HEALTH, for 1885. Compiled by A. G. YOUNG, M.D., Augusta, Me., Secretary.

THIS is a most creditable account of the hygienic progress of the State. Reports are given from nearly every section, relative to epidemics, peculiarities of disease, etc. We congratulate the Board on the results of its work.

PROCEEDINGS OF THE MEDICO-CHIRURGICAL SOCIETY OF MONTREAL, 1883–85.

THIS is a neatly arranged and compact volume of nearly two hundred pages. It consists of the minutes of the Society's meetings during the years named.

LECTURES ON SYPHILIS. By G. FRANK LYDSTON, M.D., Lecturer on Genito-urinary Diseases, Chicago College of Physicians and Surgeons; Professor of Surgery in Chicago Dental College. 16mo, pp. 184. Chicago: A. M. Wood & Co. 1885.

THE title of this book sufficiently indicates the auspices under which its subject-matter was first made public. The whole subject is clearly set forth in accordance with the present views on the subject. In explaining pathological phenomena, the views of Otis are closely followed. Like all treatises built up from hospital and dispensary observation, it contains many practical points. While each subject is handled in a very instructive manner, the chapters on treatment deserve special mention. They cover all the ground, are elaborate in detail without useless verbiage, and show plainly that the author has a thorough practical acquaintance with the management of syphilis and its various complications, as well as of the needs of the student and practitioner of medicine.

PERIPHERAL ATROPHY OF THE OPTIC NERVE.—It is stated in the *Boston Medical and Surgical Journal* that Fuchs has concluded, from an examination of more than sixty specimens, of all ages, that in the human adult there is, as a rule, an atrophy of certain optic nerve-fibres. The fibres which are thus subject to a physiological atrophy are situated: First, immediately beneath the pial sheath of the nerve; second, about the central vessels which are accompanied, as is well known, by a continuation of the pial sheath. The degeneration is a species of gray atrophy, and is found, as a rule, after the thirtieth year. The functional consequence of this atrophy would, theoretically, be an enlargement of the blind spot.

Reports of Societies.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 2, 1886.

A. BRAYTON BALL, M.D., PRESIDENT *pro tem.*

DR. SAMUEL SEXTON reported a case of

COMPLETE FACIAL PARALYSIS OCCURRING DURING SUBACUTE CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

The patient, Mr. McA——, a seminarian, forty years of age, never had robust health, but always subject to head catarrh, and of late years to neuralgia from the irritation of defective teeth. His present trouble began in November last, when the amalgam plug in the lower right second bicuspid tooth became loose, and was replaced by a dentist after the pulp and nerve had been removed from the tooth, leaving it in a diseased and sensitive condition. At this time the patient was run down, and the pressure of his work in assisting at the service of the Roman Catholic Church was very fatiguing. On Christmas morning last he got up feeling badly from an exacerbation of head catarrh, and during the church service, in which heavy vestments are worn, he perspired freely, and the right side of his neck and head, which were uncovered, were exposed to a draught of cold air from an open window. This was followed by subacute aural catarrh and severe neuralgic pains starting in the right mastoid, extending to the neck below, and spreading up over the temporal region. There was a heavy feeling in the ears, with tinnitus and deafness, which were believed to have been increased by the quinine administered. On the second day complete facial paralysis of the right side occurred. The pain in the right mastoid was so severe as to mask other symptoms, and to confine him to bed for three weeks. For several weeks after getting up the paralysis was treated with the faradic and galvanic currents, and the ear was blistered.

I first saw the patient on March 18, 1886, three months after the trouble began; he was pale, weak, and very nervous. He could speak, close the right eye, and control food during mastication better than at first, but still very considerable paralysis of all the muscles of expression remained. From the first there has been considerable swelling on the jaw over the region of the dead tooth, and the entire right cheek is more easily flushed than the left, the skin being hyperæsthetic and sensitive to the touch, especially in shaving. The drumheads now show but little of the effects of the recent catarrhal inflammation. The posterior segment of the right is clouded from previous nutritive changes, and the left has a manometric cicatrix in the posterior segment, a result of perforative inflammation in childhood. His hearing is almost normal in the right ear, but in the left a loud voice only is heard.

The anomalies of audition are particularly interesting, owing, it is believed, to the paralysis of the tensor tympani, stapedius, and tensor palati muscles, which derive their motor nerves from the facial, since it is through these muscles that tension of the transmitting mechanism of the ear is maintained. Since the paralysis came on, his own voice is unnatural to himself; it echoes in the right ear. Sounds emitted from the movement of heavy trucks, coal rattled in a sheet-iron vessel, the larger pipes of the organ and the like, or the voice when low in pitch, give rise to a second impression of sound which is perceived in another key altogether, and resembles the rattle of the cords of a snare-drum. This sensation is also caused by gently rubbing the head about the ear. This supplementary phenomenon, known as acusis duplicata, or double hearing, is due to cognizance being taken of vibratory movements of the drumhead itself, which occur independently of the rest of the transmitting mechanism, *i.e.*, without causing excursive movements in the chain of ossicles. The rattling of the drumhead, in fact, is heard as would be any membrane loosely stretched across the external auditory canal and made to vibrate. Autophonous phenomena are experienced in the left ear, due to the loss of tension from cicatricial transformation. Although low voice is well heard in the right ear for the most part, yet are interruptions frequent enough to cause great confusion.

In reviewing the history of this case it would seem that the nerves affected by the dental irritation were in an exhausted state favorable to neuritis, and that the facial nerve, which runs in the inner wall of the tympanum, sweeping over the round window before descending in the aqueductus Fallopii, was specially liable to become affected through extension of the inflammation of the middle ear present. It is difficult to say whether the exposure to the draught of cold air or the middle-ear disturbance, first gave rise to the nervous trouble; in other words, we cannot tell whether it was an ascending or descending neuritis. It seems probable, however, that but for the presence of the dead tooth the patient might have escaped the facial paralysis, since catarrhal inflammation of the middle ear is not liable to extend itself to the facial nerve; even the much-exposed *chorda-tympani* nerve seems seldom to be affected. There was in this case no alteration in sensation of the tongue.

We are not left in doubt as to the peripheral origin of the paralysis in this case, since the temporo-facial branch supplying the occipito-frontalis muscle was involved, and its fibres are believed to have a central origin remote from the other roots of the *portis dura*.

The value of pain in the mastoid as a symptom in differential diagnosis is well shown here. Intense and prolonged pain was experienced, due to the neuritis alone, in all probability, and hence the operation of trephining the mastoid for the relief of inflammation of the antrum or cellules would have been inadvisable.

On extraction the tooth giving rise to the irritation of the inferior dental nerve was found to have its pulp cavity carelessly filled with amalgam, and the canal of its root was loosely packed with cotton-wool down to within a quarter of an inch of the apex. The canal has an unhealthy look, and the alveolus was in a state of inflammation.

The patient has been treated by electricity, but not thoroughly, and blisters have been applied about the ear.

TWO TRACHEOTOMIES ON THE SAME DAY IN ONE FAMILY —WATER POURED INTO TRACHEAL WOUND TO ASSIST EXPECTORATION.

DR. GEORGE F. SHRADY referred to two cases of tracheotomy, which he had recently performed on the same day upon two sisters, aged respectively two and four years. He was called to them the day previous to the operations. They were both affected with diphtheria. In the younger the disease was in the fauces and extended downward, and in the older it was confined to the larynx and trachea. Both developed symptoms of suffocation rapidly.

The temperature in the younger child was 102° F., and in the older 101° F. The operations were performed without mishap—first upon the younger sister, and in a few hours after upon the older one. The younger although temporarily relieved of the difficuity of breathing, died of secondary croup twelve hours afterward. The older child recovered, discharging through the tube on the fifth day a bifurcated fibrinous cast. In neither of the cases was any chlorate of potash or iron administered, the treatment consisting in the freest possible stimulation by milk punch. The latter, he remarked, was his main-stay in desperate cases. This opinion was shared by Dr. Ripley, who kindly saw these cases in consultation, and assisted at the operations.

There was one item in the after-treatment to which he wished to call attention.

There was, as is usual, a great deal of expectoration through the tube, which was assisted by the inhalation of steam. But the most prompt benefit was derived from pouring lime-water by the teaspoonful directly into the trachea through the wound. This was done at the suggestion of Dr. Ripley, who had frequently used it in his practice with occasional good result.

Dr. Shrady had never seen this method tried before and was struck by its good effects in dislodging tough mucus and shreds of membrane.

Dr. Ball said he was unable to see how the lime-water could be of any special service, as it was expectorated so quickly, and thought that plain water would be equally as good.

Dr. Shrady said that so far as the mechanical effect was concerned, water would answer the same purpose. The possible advantage of the lime-water was that in case any was retained it might have the effect of loosening the phlegm or of possibly helping the separation of membrane.

Dr. Ball also referred to the temperature in Dr. Shrady's cases, and then said that the reason why he asked whether fever was noticed at the outset of the diphtheria of the larynx, no exudation being in the pharynx, was on account of a case at Bellevue Hospital, in which tracheotomy was performed, but the child died of extension of the exudation into the smaller bronchial tubes. Two or three days afterward a child in the same building—not in the same ward—was taken with what appeared to be a simple cold, attended by little or no fever; but in the course of forty-eight hours laryngeal stenosis developed, with scarcely any febrile disturbance, and they were inclined to regard the disease as catarrhal in character. The difficulty in breathing, however, increased rapidly, and tracheotomy became necessary. When the operation was performed there was slight fever, but it subsided entirely, and the tracheotomy gave the child complete relief from the distressing symptoms. The child seemed to get well. It remained without fever for ten days; but it was impossible to remove the tube on account of the difficulty of breathing which at once ensued. No membrane was expectorated during the next ten or twelve days, and they reached the conclusion that they had performed tracheotomy in a case of catarrhal croup. At about this time the child became feverish, and died within forty-eight hours. At the autopsy membrane was found commencing in the larynx and extending down to the small divisions of the bronchi.

The theory was that there had been diphtheritic croup in the larynx, which remained stationary after the tracheotomy for ten or twelve days, and then lighted up and extended into the smaller bronchial tubes. Dr. Jacobi had called attention to the fact that in catarrhal croup, when stenosis depended upon swelling of the mucous membrane, without false membrane, there is almost invariably more or less fever; but that in diphtheritic croup, when there was no false membrane in the pharynx, the case was very often unattended by fever; and that the absence or low grade of fever, combined with laryngeal stenosis, made it almost certain that new false membrane was present. The point was, that while fever attended laryngeal and tracheal diphtheria, cases died in which fever was *absent*.

The Value of Lateral Incisions of the vulva, for the purpose of preventing rupture of the perineum, is not generally conceded, but is apparently brought out by the recent investigations of Crede and Colpe. Out of 1,000 primiparæ in the Leipzig Maternity Hospital, incisions were not thought necessary in 741 cases, but nevertheless ruptures occurred in 104 of these favorable cases, that is, in fourteen per cent.; in the remaining 259 cases rupture seemed inevitable and the lateral incisions were made, with the result that the perineum was torn in 29 cases, or about eleven per cent.

NEW YORK ACADEMY OF MEDICINE.

SECTION OF PRACTICE OF MEDICINE.

A. L. Loomis, M.D., Chairman.

TRACHEOTOMY IN CROUP.

Dr. Alexander Hadden said he presented the paper as a continuation of one published in The Medical Record in 1880. He gave the histories of twelve cases in which he performed tracheotomy. The treatment, aside from the operation, consisted usually of an application of persulphate of iron and glycerine to the mucous membrane of the trachea at the place of incision, of slacked lime in the room, in some instances the use of a weak solution of bromine. In the diphtheritic cases the treatment was stimulating from the first.

Tracheotomy was followed in the first case with expectoration of membrane, relief to breathing, and the patient recovered. In the second case death took place eighteen hours after the operation of emphysema of the lung. The third patient died of emphysema of the lung twenty-four hours after the operation, having exhibited no diphtheritic complication. In the fourth case there was a thick, firm membrane of the tonsil and pharynx, evidently invading the larynx. The patient was given large doses of the tincture of chloride of iron and stimulants. Dyspnœa increased; tracheotomy was performed; the child did well for three days, but died on the fourth of bronchial obstruction and diphtheritic asthenia. The fifth patient was a boy, aged five, who had a croupy membrane of the tonsil extending upward into the nares and downward into the larynx. He was found walking about the room; the invasion was very insidious. Dr. Hadden placed him in bed, applied persulphate of iron and glycerine to the throat. Tracheotomy became necessary, after which the iron and glycerine was applied to the tracheal mucous membrane. Six days later the membrane had entirely disappeared. The tube was removed on the eleventh day, all signs of obstruction having disappeared. On the twelfth day there appeared albumen in the urine and paralysis of the muscles of deglutition. The patient died of paralysis of the heart. He had not received the nursing which he should have had, and death took place from causes not due to obstruction of the air-passages. The sixth patient died of pulmonary emphysema. The seventh patient recovered against their expectations. One other member of the family died from the disease. The eighth patient died, at the end of thirty hours after tracheotomy, of pulmonary emphysema and asthenia. The ninth patient had membranous laryngitis following measles, and died of broncho-pneumonia. In the tenth case he was called to perform tracheotomy when dyspnœa was extreme; the tube pushed the membrane before it, and the patient died on the operation-table. The eleventh patient died thirty hours after the operation of diphtheritic asthenia. The twelfth patient was seen with Dr. Reid; there was severe tonsillitis, no membrane was visible, and the temperature was 103° F. When Dr. Hadden arrived the child was cyanotic. Tracheotomy was performed. The lumen of the trachea was almost occluded. At first it was thought that a membrane was obstructing the tube, but examination of the trachea showed its mucous membrane to be smooth and the submucous tissue highly œdematous. Artificial respiration and irritation of the inner surface of the trachea enabled them, after about ten minutes, to bring about quite uniform respiration, and after about half an hour a very unpromising case was markedly relieved. The patient went on to recovery. The case was instructive because extremely rare. Dr. Hadden had never met with a similar one. It was evidently a case of œdema of the submucous tissue of the trachea, with but little catarrhal inflammation, and without any pseudo-membrane whatever.

It would be observed from the cases presented, that the author had made a distinction between croup and diph-

theria, and true membranous croup. He would not enter upon the question of the duality of these diseases further than to explain the details of his treatment. Many of the ablest authors at home and abroad held that where there was a pseudo-membrane diphtheritic inflammation was present. For the opinions of these gentlemen he entertained profound respect, but it seemed to him they were based more upon the revelations of histology than upon clinical phenomena. Pathology had not shown a difference between the lymph of varicella and small-pox, yet there was a vast difference between the two diseases. Clinically, croupous laryngitis and tonsillitis was markedly sthenic in character, non-infectious, of comparatively short duration, not leaving much constitutional disturbance. The disease began with marked symptoms; the temperature and pulse ranged high. Diphtheria, on the other hand, was asthenic in character. It might be in some cases ushered in with convulsions, followed by swollen tonsils, cervical glands, high temperature, but these were very malignant cases, as a rule; usually it began with general malaise, with fever, perhaps not higher than 100° F. So little was the throat affected that it was apt to be overlooked by the attendants.

It was important, according to the nature of the disease, whether a true croup or a diphtheria, to adopt an entirely different plan of treatment. The one called for treatment which was depressing in its effects, as cathartics, emetics; while the other, in its invasion and even at the height of its development, required stimulating and vigorous supporting treatment. Both required absolute rest in bed. If a child was attacked with croupy symptoms which he believed to be of a pseudo-membranous character, during the febrile stage he at first administered an emetic, afterward a calomel cathartic, and febrifuges of squills, aconite, or veratrum viride, as the case might be. On the following day, while the fever continued, he sometimes gave small doses of antimony. When the fever subsided he used iron and glycerine as a local application several times a day, continued until the exudation disappeared. If the croupy symptoms increased beyond a huskiness of the voice, he placed the patient under a steam tent. He gave a generous liquid diet, and kept the bowels free by a mild cathartic. Careful nursing, iron and quinine, constituted the main elements of treatment during convalescence.

On the other hand, if the case were one of diphtheria, he gave no depressants, but a mild cathartic, stimulants, iron and soda mixture, solution of bromine (Thomson's), the local application of iron; enjoined rest, kept the atmosphere moist with steam, because it was soothing to the air-passages, careful attention to the temperature of the room.

Dr. Hadden referred to the success which Dr. O'Dwyer had had with intubation of the larynx. Dr. Hadden had not yet employed the method, but he was disposed to think well of it from hearsay. His last twelve cases of tracheotomy had not been quite as successful as those already reported.

Dr. J. Lewis Smith opened the discussion with a brief paper on the local treatment of croup prior to the performance of tracheotomy. Alkaline inhalations had been in use in the treatment of croup as far back as the recollection of the oldest physicians extended. They had a solvent effect upon the fibrin of the croupous membrane. As water took up only a small portion of lime, it had been recommended of late years to increase the alkalinity, and to add to the alkaline medium the digestive ferment tripsin. If asked how to treat membranous or diphtheritic croup prior to a resort to surgical methods, Dr. Smith knew of nothing better than the constant or almost constant inhalation of the following: Tripsin, a quantity sufficient, or as much as could be added to the other ingredients without clogging the atomizer; bicarbonate of sodium, two drachms; lime-water, six drachms. The only objection to tripsin was its expensiveness. The result of the treatment of croup by inhalation depended to a great extent upon the earliness of its commencement. In his opinion the slight laryngeal catarrh which was the forerunner of croup might in a considerable proportion of cases be removed by inhalations, and the disease under discussion be prevented.

But if these slight symptoms passed unheeded, and inhalations were not used at the proper moment, and pseudo-membrane formed on the laryngo-tracheal surface, we all knew how incapable were inhalations of checking the progress of the membrane and of saving life. The physician was often not summoned until the disease had become fully established. One benefit of inhalations was that they rendered the muco-pus thinner, and they probably liquified the fibrin present in the pus.

Muriate of pilocarpin was recommended by those who used it in diphtheria, on the theory that by the abundant secretion from the surface of the air-passages which it caused it produced detachment of the pseudo-membrane. But, Dr. Smith said, it must be remembered that the expiration of the bronchial secretion was difficult in membranous croup, on account of the obstruction produced by the pseudo-membrane, so that pilocarpin was likely to cause filling up of the bronchial tubes, increased dyspnœa, and sudden death. This effect he had seen after the employment of pilocarpin, and warned physicians against its use.

Dr. Smith had been very favorably impressed with O'Dwyer's laryngeal tube for the relief of dyspnœa, and he had seen it rescue patients from impending suffocation in a number of cases of croup. Dr. O'Dwyer had spent some years in improving the instrument, and he now used one which seemed to be as nearly perfect as it could be made. It was not until recently that Dr. O'Dwyer had been made acquainted with the fact that Bouchut, in Paris, employed intubation of the larynx, and advocated its use in the place of tracheotomy, in 1858. Trousseau, being a great advocate of tracheotomy at that time, opposed the method, and the result was that a committee was appointed by the Academy, of which Trousseau was the head, and in their report they condemned intubation and recommended tracheotomy. The following facts relating to the use of O'Dwyer's tube could be considered as established: (1) the tube can be inserted in the fractional part of a minute, and can be removed in less than a minute; (2) in all cases in which the disease is confined to the larynx and trachea, it relieves dyspnœa as effectually and permanently as does tracheotomy; (3) in all cases of urgent dyspnœa or great prostration intubation is preferable to tracheotomy, since it can be quickly performed and without loss of strength accompanying hemorrhage; (4) the consent of the family can be obtained for tubage when they refuse it for tracheotomy; (5) there is no antagonism between tubage and tracheotomy, but tubage should precede tracheotomy, although the latter procedure was not likely to give relief when the former failed.

Dr. John H. Ripley said he had nothing very new to add on this subject. During the last six years he had made very little progress in the treatment of membranous croup; so far as he was concerned, the treatment was not any more successful that it was six years ago. Some epidemics had been more severe than others. His last fifty cases of tracheotomy had been more successful on the whole than the first fifty. In his first fifty about one in four patients operated upon recovered; during the last three or four years one in three and a fraction had recovered. He had done tracheotomy altogether one hundred and fifteen times. So far as he was able to judge, there had been no improvement in the general treatment except that patients got less medicine. In his last fifty cases he had given very little treatment aside from stimulants and nutrition. Formerly he gave chlorate of potassium very freely, but now he gave very little. Careful and continued examination of the urine of the

children showed that nephritis was a common complication, and he believed that chlorate of potassium was injurious in such cases. He thought it was injurious in small doses, and it was a well-established fact that it was a dangerous drug in large doses. He employed steam after the operation. He preferred simple steam to medicated steam. In one case in which he performed tracheotomy on a little child, the steam was medicated with a small proportion of carbolic acid. The mother thought that a little being good, more would be better, and they discovered that she had increased the quantity of the acid by the symptoms of poisoning which the child manifested. The patient finally got well.

Dr. Ripley was glad to see some support in the paper of his view, that children after tracheotomy for croup did not die of pneumonia. The author had said that five of the patients died of emphysema; Dr. Ripley thought it probable they died from extension of the membrane downward, producing emphysema. He supposed it was not the emphysema which caused death, for emphysema might exist indefinitely.

The author seemed to attach considerable importance to applications of persulphate of iron, in the belief that it prevented the formation of membrane. But if it prevented the formation of membrane simply at the point of application it would not do much good, for children did not die of membrane in the trachea.

The question of duality of croup and diphtheria had been up for discussion at almost every medical society in this city, and it was not necessary to discuss it this evening. He did not think the author had advanced anything which would go far toward settling the question. He said this with all courtesy to Dr. Hadden. It was said that in diphtheria there was a low temperature, and in croup a high temperature. Dr. Ripley had seen many cases of diphtheria in which, at the onset of the disease, there was a temperature of 104° or 105° F.

And regarding what the author called membranous croup, but what Dr. Ripley would call primary diphtheria of the larynx, the temperature ordinarily was not very high. After tracheotomy a high temperature was no proof of pneumonia; the child might die of secondary croup with a temperature of 105°, or with a temperature of 97°. He hoped to be able to demonstrate beyond contradiction, sooner or later, that it was bronchial croup which killed the majority of children who died after tracheotomy, and not pneumonia. Those opposed to him would call attention to, perhaps, little patches of pneumonia, but these would not produce death. It took a good deal of pneumonia to kill a child, as a rule.

Dr. Joseph E. Winters said he had not heard all the paper, but he inferred from the discussion that the author made a distinction between diphtheria and membranous croup. As Dr. Ripley had said, this subject had been extensively discussed in this city. Dr. Winters believed, from clinical and post-mortem examinations, that they were identical. We had no anatomical basis on which we could differentiate a membranous laryngitis due to cold and a membranous laryngitis of diphtheritic origin. If there was a membranous non-diphtheritic laryngitis, it could not be demonstrated clinically or pathologically from laryngitis of diphtheritic origin.

Dr. Winters believed that the extension of the diseased process into the larynx in diphtheria was only accidental; that it was not the natural tendency of the disease to spread into the larynx, but that such extension was due to exposure and the influence of cold. He had never seen a case of membranous laryngitis in the course of diphtheria which could not be attributed to cold or improper local treatment. As to local treatment, he did not believe it was curative; on the contrary, he believed that in a great many cases it was injurious. He was sure he had seen children recover after suspension of local treatment, who would have died had he persisted in the violent application of local measures which were so often used. The inhalation of the fumes of sulphurous acid produced a moisture of the throat and gave the patient great comfort, when a healthy person might find them very disagreeable. He thought patients did better with small doses of quinine and larger doses of iron than when they received nothing.

Dr. A. Jacobi asked Dr. Hadden whether he had meant to say certain of his patients had died of emphysema, or whether he did not mean of pulmonary œdema?

Dr. Hadden replied of pulmonary emphysema.

Dr. Jacobi would have to differ from him. When he found emphysema at autopsy, he would not claim that it had been the cause of death. He would say that it was only one of the consequences of the disease.

There was one fact spoken of by the author which was of great importance, namely, paralysis of the muscles of deglutition at an early period. Dr. Jacobi had seen a few cases in a long practice of paralysis of the muscles of the mouth, the result of œdematous effusion, and it was necessary to give food by a tube. When this condition arose there was great danger of food entering the air-passages and exciting a fatal pneumonia.

Another interesting fact was the case related by the author in which there was œdematous swelling of the submucous tissue at the seat of the operation which obstructed the tube. Dr. Jacobi had seen this condition very few times, and always with a considerable amount of pulmonary œdema. But he had never seen submucous œdema to such an extent as to contract the lumen of the trachea.

Again, the author had stated that in one case the membrane in the trachea was quite adherent. The stress which he failed to lay upon this fact Dr. Jacobi would now lay, for certainly when we opened the trachea and found a thick diphtheritic or croupous membrane that membrane was not usually embedded in the tissue. It swam, as it were, on the mucous membrane. This case offered stronger proof against the duality of the two diseases than the author had been able to bring in favor of their duality.

As to treatment, he would say that when steam was used it should not be produced by an alcohol-lamp or gas-jet, which burned up the oxygen in the room, but by a kettle on the fire, and conveyed through a cylinder under the bed-sheet surrounding the patient. He did not agree with Dr. Hadden that the temperature could be taken as in any way pathognomonic.

Dr. Jacobi related a case illustrating his statement that whenever one had a case of uncomplicated laryngeal stenosis, and no elevation of the temperature, he could feel satisfied that it was a case of membranous croup, and not of catarrhal or inflammatory croup. In inflammatory or catarrhal croup there was always elevation of temperature.

Dr. Henry D. Chapin would say a word with regard to tripsin, which he believed he was the first to use in croup. Certainly outside of the body it dissolved the membrane, and inasmuch as it was not irritating, he thought the fellows need not hesitate to use it through fear of doing harm.

Dr. Hadden, in closing the discussion, said that emphysema in the cases referred to was evident on physical examination. As to the use of persulphate of iron with glycerine, he was convinced of its benefit. There was a tendency for the membrane to extend from the tonsils down into the larynx, which he thought it tended to prevent. It constricted the capillary vessels, and enabled the mucous membrane to throw off the pseudo-membrane much sooner. It was not a painful application; it was soothing after being applied. He also believed in keeping the throat clean with a weak bromine solution.

Dr. Brown gave the result of intubation by O'Dwyer's method in twenty-five cases of membranous croup in the New York Foundling Asylum. In fifteen, which had already been reported in The Medical Record, there were four recoveries; since then it had been employed in ten cases with two recoveries.

The Academy adjourned.

MEDICAL SOCIETY OF THE STATE OF NEW JERSEY.

One Hundred and Twentieth Annual Convention, held at Sea Girt, N. J., June 8 and 9, 1886.

TUESDAY, JUNE 8TH—FIRST DAY—AFTERNOON SESSION.

THE meeting was opened with prayer by the REV. DR. BROWN, who also made the address of welcome in a few happy remarks.

DR. PIERSON then made the report for the Committee on Credentials.

Dr. M. C. Hazen, delegate from Connecticut, and all other delegates, were invited to sit with the Society.

The minutes of the preceding meeting were read and approved.

DR. BALDWIN, Chairman of Committee on Business, reported the following subject for discussion at the next annual meeting of the Society, viz., "What is the Personal Experience in the Use of Antipyrine, and does it permanently Reduce Temperature?"

TREASURER'S REPORT.

Total receipts, $1,900.04; balance, $2,050.

The discussion was opened upon the results of the use of the muriate of cocaine in ophthalmic surgery, and also in general practice, as developed by the experience of individual practitioners.

DR. C. J. KIPP, of Newark, in speaking of

THE USE OF COCAINE IN OPHTHALMIC SURGERY

said he had used it in many operations upon the eye and had not been disappointed in its anæsthetic effect. He has, since its introduction, done away very largely with the use of ether and chloroform.

In cases of iritis it subdues the pain; in fact, in all painful affections of the eye he has found it of great benefit, especially when there is photophobia and lachrymation. In conjunctivitis he has not found it to be of much use. The doctor has not used it in enucleation of the eye. He has never witnessed any bad effects from its use.

DR. BOARDMAN REED, of Atlantic City, said it had been his experience that the persistent use of cocaine, in cases in which the mucous membrane was hypertrophied and congested, led to an exaggeration of the condition.

DR. KIPP said this result might be obviated by the use of caustic immediately after the application of the cocaine.

DR. OSBORNE, of Newark, had found it useful in allaying the pain of quinsy, and in rendering the tissues painless in small operations.

DR. PARRISH had used it in cases of melancholia, with apparent temporary effect. He had used the wine of coca with better success.

DR. WATSON had used it in a case of amputation of the thigh, injecting the cocaine at many points along the line of incision. While the patient suffered but little pain during the operation, his mental agony was distressing. Dr. Watson thought it unwise to employ cocaine in operations of such magnitude.

EVENING SESSION.

DR. JOSEPH PARRISH delivered the

ANNUAL ADDRESS OF THE PRESIDENT,

and took for his subject the

GEOGRAPHY OF MALARIA.

He said that to the unprofessional mind it means chill, fever, aching bones, creeping rigors, and all or either of the symptoms which announce the advent of the fever, whether it be ephemeral, intermittent, remittent, pernicious, or continued.

To the professional mind it covers a range quite as extensive, and is used with a vague and limitless meaning that is as surprising as it is groundless. The doctor questioned whether there was another word in the nomenclature of medicine that is employed in such a careless and indifferent sense as this single word *malaria*. For a number of years the doctor has thought that the phenomena of these fevers could be fairly accounted for without penetrating the realm of mystery or assuming the existence of an impalpable poison that has so far evaded the most thorough microscopic investigations and failed to disclose itself under the most rigid chemical analysis. He does not deny the existence of marsh poisons. On the contrary, he recognizes the fact that in the process of decomposition there is eliminated a variety of gases, either or all of which may be poisonous to human blood and tissue; but he did not feel relieved by this admission, for he is confronted by a stubborn fact which is the result of observation and experience during many years, and that fact is that similar, and even identical, effects are exhibited in localities where there are no paludal conditions and no chance even for poisonous exhalations from the soil. With such antagonistic conditions and the appearance of similar morbid phenomena the conclusion is inevitable that there is at least a lack of uniformity in the etiology of these fevers, which fact suggests the following inquiry:

If it can be shown that the characteristic chill, fever, and sweat, prevail in mountainous, rocky, and arid places, may not the marsh theory be excluded, even from localities where marsh is the prevailing type? In other words, if it can be shown that like symptoms can be traced to causes that are identical both in regions of mountains and rocks, as well as in delta and swamp, why need we resort to the inexplicable hypothesis of paludal miasm as the cause? It is generally admitted that what we recognize as malarial disorders prevail most extensively in hot climates, so that the focus of malaria may be said to be within the tropics. It should be remembered also that in such tropical regions the malarial type of disease is most apparent at those periods of the year when there is the most sudden transition from the greatest heat to the greatest cold.

DR. PRICE dissented from the views advocated by Dr. Parrish. He did not think that chill alone could be the cause of malaria.

DR. ROGERS considered it a mistake to say that an ordinary cold might be a cause of malarial manifestations. In genuine malarial fever (intermittent) there is a recurrence of symptoms, in the case of an ordinary cold there is none. In malarial fever the symptoms recur after the effect of the medicine has gone.

DR. STEVENSON argued against Dr. Parrish's theory, stating that on the Atlantic slope of New Jersey, south of Burlington County, for a distance of about forty miles from the coast, there was no malaria, while in the section of country adjoining on its western side, and south of Camden County, there is a great deal of malaria.

DR. B. REED, of Atlantic City, thought the cases of "malaria" reported as developing at Atlantic City were misnamed. He considered all the cases due to sepsis, or to the influence of typhoid-fever poison.

DR. FISHER spoke in favor of the marsh theory.

DR. BENJAMIN spoke of newly upturned earth as a cause.

DR. T. J. SMITH, Chairman of the Standing Committee, reported upon

THE HEALTHFULNESS OF THE VARIOUS COUNTIES.

In Essex County epidemic influences have been felt during the last year. In Newark there have been many cases of diphtheria and croup. In Atlantic County throat and lung diseases have prevailed. In Mercer County there have been quite a large number of cases of scarlatina, diphtheria, and typhoid fever. In Middlesex County dysentery has been prevalent. In Monmouth County there was quite a severe epidemic of measles. In Salem County a more than usual amount of alimentery disorders were observed. In concluding

his report he stated that there has been less sickness in the State than in several years. Malarial fever is becoming more rare each year.

Fevers have been moderate in amount, and singularly governable by treatment. The ordinary endemics—rubeola, whooping cough, and parotitis—were less frequent and of milder type than in years past. Diphtheria has been restricted in its prevalence to a few localities. Scarlet fever was less in amount, and did not present any striking features. A limited number of cases of puerperal fever have been reported. There have been a few cases of cerebro-spinal meningitis. The State has been almost exempt from small-pox.

Dr. Elmer, Corresponding Secretary, then made his report.

Wednesday, June 9th—Second Day—Morning Session.

Dr. Godfrey, a delegate to the American Medical Association, gave a very interesting report of that Association.

Dr. E. M. Hunt moved that so much of the report as did not refer to the suggestions of the St. Louis Society be accepted. His motion, after considerable debate, was carried.

Dr. W. B. Bronson and M. C. Hazen, delegates from Connecticut, made a few congratulatory remarks, which were acknowledged by Dr. Parrish.

Dr. H. Genet Taylor made a report on

MEDICAL EDUCATION.

He said that a casual glance at the history of the New Jersey Medical Society, and a retrospective view of the past seventy years, and particularly the original Act under which this Society was incorporated, is conclusive evidence that in order to elevate its standard, and to guard against the evils growing out of a want of knowledge of our science, the Legislature of New Jersey conferred upon us certain sacred trusts, to protect which, we, as successors of the handful then composing our Society, are bound by every principle of honor. In the supplement passed two years later, the same ideas were again promulgated, and further powers given to carry into effect the original object of corporation. Under this Act and supplement the Society worked successfully until empiricism and quackery began to assume gigantic proportions, when, in order to better protect the rights conferred under the original Act, relief was again given in the Act of 1830, which Act, if in force to-day, would guard our thresholds and place the medical profession in New Jersey beyond the reach of impostors and those unworthy of the honors of membership. In the year 1864, when surrounded by many difficulties at almost every step, we concluded to surrender all our remaining rights to the State, and organize under a comparatively new law which was then passed, but which confers few powers beyond ordinary corporation privileges. So now to-day, with a large increase in our membership, and a much larger one in the form of quackery and illiterate pretenders of the healing art, we cannot claim that protection conferred fifty-six years ago by the Act of 1830, and, unless an effort is made, or some action taken to reform our present system, I feel the day is not far distant when the Medical Society of New Jersey will exist only in name. The doctor urged that the student of medicine should be possessed of knowledge sufficient to make an impression on the popular mind. He should devote himself in his early years to the study of the classics, to researches in metaphysics, mathematics, and natural sciences, for, as Bishop Barclay justly says, "that it is of the number of those preparatory studies which may be compared with crops raised, not for the sake of the harvest, but to be ploughed in as dressing to the land." He further said that "that rivalry between schools which should lead to constant efforts to elevate the character of medical instruction, and to raise the moral value of the diploma as a certificate, has been perverted, under the influence of this mistaken system, to results precisely opposite."

Dr. W. K. Newton, of Paterson, N. J., read a very interesting paper on

THE RELATIONS OF THE PHYSICIANS TO THE STATE.

He said that while the physicians of to-day know more about disease, its causes, pathology, and treatment, than ever was known before, they do not, perhaps, exercise the same therapeutic instinct possessed by their fathers. Much may be learned by observing the habits and practice of our ancestors in medicine. If they were less scientific than are we, they were nearer to the hearts of the people, were oftener sought to counsel in the affairs of State, and had more influence in political life. Dr. Newton emphasized the fact that the physicians do not show sufficient interest in the affairs of the State. He said that the doctor should be found (as an interested party) in the front rank, and not behind, shirking his duty. He would not have the doctor converted into a political wire-puller, for then he would be a hybrid, but he would have him take such a personal interest in the political affairs of the State as to at least make an effort to clarify the present unclean condition of State politics. He then pointed out some of the exemptions granted to the doctor by law, also the duties imposed. He also stated that a physician as an expert cannot be forced to testify unless compensated; further, that as an expert he may state conclusions and hypothetical facts, whereas an ordinary witness may state only facts.

DISCUSSION UPON THE REPORT OF THE COMMITTEE ON EDUCATION.

Dr. T. J. Smith thought that while it might be desirable for some reasons to urge the acceptance of the recommendation of the Committee, for certain other reasons it might not be practicable. He thought that the young men anticipating the study of medicine would conclude to go to one of the colleges in New York or Philadelphia, and thus escape the provision made in their behalf by the New Jersey Medical Society. As a member of the Committee he would not urge its acceptance, if it could be shown to be impracticable.

Dr. Benjamin thought we should consider the interests of mankind rather than the pecuniary interests of the colleges, and would therefore urge the acceptance of the recommendation of the Committee.

Dr. Sehlbach, in a very positive manner, objected to a part of the recommendation, namely, that every person contemplating the study of medicine shall be able to translate with facility three books of the "Commentaries" of Cæsar, "two Orations" of Cicero, and two books of the "Æneid" of Virgil; Greek language, including its grammar, the "Anabasis" of Xenophon, and two books of the "Iliad" of Homer. Dr. Sehlbach considered it unnecessary to be able to translate so much of Latin and Greek in order to begin and successfully complete a medical education. He thought the elements of physics, chemistry, and natural history, including botany and zoölogy, were far more important. As a method of annihilation he considered the course proposed by the Committee a good one, for it proposed to allow Xenophon to knock the trembling applicant down, Cæsar to kick him out of the window, and Cicero to trample upon him. He therefore urged that the further consideration of the question be indefinitely postponed.

Dr. Rogers thought that Dr. Sehlbach would annul all law and order, and institute a pernicious individual liberty. We should create a healthy public sentiment upon this point, and elevate the standard of medical education by careful preliminary instruction. He claimed that unless a student understood Latin he could not fully understand his own language, and therefore but imperfectly grasp the meaning of the terms so frequently used in every text-book and every lecture.

Dr. Pennington fully endorsed Dr. Rogers' views, and opposed Dr. Sehlbach's sentiments in a very emphatic manner. He considered the classics as essential if the mental faculties are to be properly trained and developed.

Dr. G. H. Ballery then read an unusually instructive paper on

ABDOMINAL SURGERY.

He cited many cases which had come under his own observation, and which were replete with information and points of interest.

OFFICERS ELECT.

The Nominating Committee next made the following report:

President—C. J. Kipp.
First Vice-President—J. W. Ward.
Second Vice-President—H. G. Taylor.
Third Vice-President—B. A. Watson.
Corresponding Secretary—Wm. Elmer.
Recording Secretary—Wm. Pierson.
Treasurer—W. W. S. Phillips.
Standing Committee—T. J. Smith, E. S. Marsh, D. C. English.
Delegates to American Medical Association—E. North, J. W. Ferry, D. Benjamin, C. R. Wiley, C. J. Kipp, John Ashcroft, W. P. Watson, D. C. English, H. J. Cook, S. H. Reed, A. W. Rogers, W. S. Ewen, W. J. Swinton, J. Miller, S. W. Oakley, J. Parrish.

Dr. Benjamin then offered the following resolution, viz., that the New Jersey State Society recommend only such colleges as have preliminary examinations and a three years' course.

Approved.

Dr. Wittingham offered a resolution

ON EXPERIMENTAL RESEARCH AND VIVISECTION

in the following form:

Whereas, In the investigation of questions pertaining to life, health, and disease, experiments upon lower animals are absolutely necessary to determine the causes and results of diseases or injuries;

Resolved, That this Society not only countenances but approves of such experimental research, and disapproves of the action of societies or persons who, on the ground of preventing cruelty to animals, would throw obstacles in the way of experiments having for their object the relief of human suffering.

Approved.

The next annual meeting will be held at Beach Haven, N. J., in June, 1887.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Fifth Anniversary, Held at Boston, June 8 and 9, 1886.

TUESDAY, JUNE 8TH—FIRST DAY.

The fellows made the usual visits in the morning to the Massachusetts General, the City, and the Children's Hospitals.

During the day Dr. Ernst exhibited, at the Harvard Medical School, apparatus for bacteriological research, with cultivations and microscopic preparations. At the Institute of Technology there was an exhibition of drugs.

At 2 P.M. the members met in Huntington Hall, and listened to a paper on

THE ABUSE OF MEDICAL CHARITY;

A Remedy applied in 3,000 Cases of Out-door Patients, Results, by Dr. Frederick F. Daggett, of Boston.

Dr. Doggett spoke of the well-recognized abuse of medical charity, and described his plan for its prevention. This consisted in a systematic investigation of the worthiness of applicants, and had, as shown by the writer's statistics, resulted in a large decrease of the number of unworthy applicants.

Dr. John L. Hildreth, of Cambridge, read a paper entitled

DOES THE LAW RECENTLY ENACTED BY THE LEGISLATURE PREVENT THE SPREAD OF SCARLET FEVER?

The conclusion of the paper was that the spread of the contagion had probably been prevented, but the doctor stated that, were he to criticise the rules, he would say "they were not definite enough where the law says," in regard to the dangers of contagion, "two weeks from the recovery of the last case." "Physicians have different notions as to where, in the ordinary cases, recovery begins."

PAPERS READ.

"The Present Status of Bacterial Pathology" was next considered in an interesting paper by Dr. Albert N. Blodgett, of Boston; followed by one on "The Management of Cases of Rigidity of the Os Uteri in Labor," by Dr. Wm. E. Boardman, of Boston.

Dr. Charles Harrington, of Boston, then read an interesting paper upon

A NOT WELL-RECOGNIZED SOURCE OF DOMESTIC POISONING, WITH CASES.

The essayist said that bichromate of potassium is now regarded as by far the most useful mordant for the manufacture of woollen goods, but that it was a poison. Several cases were cited in support of this theory. One was that of a strong, healthy woman who worked on cloth such as is used in making boys' caps. Her symptoms were intense itching of the head and body, cutaneous ulceration, and the loss of six finger-nails. Other cases cited were those of two young boys and an aged clergyman, who experienced similar symptoms, all of which the essayist attributed to the wearing of clothing and gloves made of materials in which bichromate of potassium was used as a mordant.

The final paper was upon "Abdominal Cellulitis," by Dr. Julian A. Mead, of Watertown.

The Annual Conference of Censors was held at No. 19 Boylston Place, at half-past two o'clock. Routine business only was transacted.

THE ANNUAL MEETING OF THE COUNCILLORS

was held at No. 19 Boylston Place, at 7 P.M., President Charles D. Homans, M.D., in the chair. There have been 35 deaths the past year, and the gain has been about 78, the present membership being about 1,675. The diplomas of 24 additional colleges have been recognized during the year. The Society's financial condition is good. The following officers were elected for the ensuing year: President, Thomas H. Gage, of Worcester; Vice-President, John M. Harlow, of Woburn; Treasurer, F. W. Draper, of Boston; Corresponding Secretary, C. W. Swan, of Boston; Recording Secretary, F. W. Goss, of Boston; Librarian, E. H. Brigham, of Boston; Orator, G. H. Townsend, of South Natick; Anniversary Chairman, W. L. Richardson, of Boston.

WEDNESDAY, JUNE 9TH—SECOND DAY.

The annual meeting was held in Huntington Hall at 9 A.M.

PRESIDENT CHARLES D. HOMANS, M.D., OF BOSTON, IN THE CHAIR.

The records of the last annual meeting were read by the Recording Secretary, Dr. Francis W. Goss, of Roxbury, and were approved by the meeting. There have been 78 new fellows admitted to the Society during the last year, and 31 have died. The Treasurer, Dr. Frank W. Draper, of Boston, presented his report, from which the following figures are gleaned: Last year's bal-

ance, $1,710.73; total receipts, $10,452.40; total expenditures, $8,685.03; balance this year, $1,767.37; total balance, $3,478.10. The invested funds are $32,420.17, bearing interest at the rate of four per cent. Thirteen members of the Society have forfeited their membership by removal from the State or failure to pay their assessments. The names of three fellows have been dropped from the rolls on account of delinquency in payment of fees. There are now 1,605 fellows in the Society.

The following papers were then read: "An Epidemic of Malaria in Eastern Massachusetts in 1885," by Dr. Zabdiel B. Adams, of Framingham; "The Causation and Treatment of Lateral Curvature," by Dr. Edward H. Bradford, of Boston; "Some of the Results of Fractures," by Dr. Joseph E. Garland, of Gloucester; "The Etiology and Treatment of Summer Diarrhœa of Infants," by Dr. Henry C. Haven, of Boston.

After the reading came the introduction of delegates. This was followed by an intermission of fifteen minutes, and then the orator, DR. RICHARD M. HODGES, of Boston, delivered the annual discourse, upon

UNDERCURRENTS OF MODERN MEDICINE.

The discourse, which occupied about an hour in delivery, was one of the greatest excellence, and showed a close grasp upon, and a thorough knowledge of, the various branches of the subject treated on the part of the writer. The orator was rewarded with the closest attention of the Society throughout the entire delivery of the discourse, each good point was received with appreciative recognition, and as he closed there was enthusiastic and prolonged applause.

The President-elect, DR. THOMAS H. GAGE, of Worcester, then made a short speech of thanks.

At the close of Dr. Gage's speech, the procession of the Fellows, formed in the order of seniority, proceeded to the Clarendon Street Skating Rink, where, at half-past one o'clock,

THE ANNUAL DINNER

was served. Anniversary Chairman Dr. Edwin B. Harvey, of Westbury, presided, and made the opening speech. On his right, in the order here designated, sat the retiring President, Dr. Charles D. Homans, President-elect Gage, Dr. John M. Harlow, Dr. B. E. Cotting, Dr. H. W. Williams, Dr. H. P. Walcott, and Surgeon-General Holt. On his left were President Pillsbury, of the State Senate, Dr. Gerrish, Dr. Lyman, Rev. Minot J. Savage, Dr. Hartnell, Dr. R. M. Hodges, and Dr. George W. Gay. The divine blessing was invoked by Rev. M. J. Savage, after which about an hour was spent in discussing the dinner. During the dinner, and at intervals during the speaking, the Germania Orchestra rendered pleasing musical selections.

The toast "The Massachusetts Medical Society" was responded to by PRESIDENT-ELECT GAGE.

In the unavoidable absence of Governor Robinson, HON. ALBERT E. PILLSBURY, President of the State Senate, was introduced to respond for the Commonwealth, and was received with loud applause. After a few facetious references to the presence of lady members, misnamed "fellows," and to the infallibility of the Legislature, he took up the subject of the State Board of Health, Lunacy, and Charity.

The REV. MINOT J. SAVAGE, of Boston, followed with some remarks on the parallels suggested to him between the medical and clerical profession.

DR. GEORGE W. GAY, of Boston, then read a poem written for the occasion by Mrs. M. E. Blake.

The last speaker was PROFESSOR JOHN HARTNELL, of Johns Hopkins University, who made a strong plea in behalf of physical culture and hygiene in schools and colleges; after which the exercises were brought to a close, and the one hundred and fifth anniversary of the Society ended.

Correspondence.

"IS DISEASE OF THE UTERINE APPENDAC AS FREQUENT AS IT HAS BEEN REPI SENTED?"

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have just read in your issue of April 10th the port of a paper by Dr. Henry C. Coe on the quest "Is Disease of the Uterine Appendages as Frequen it has been Represented?" This title is to me a n extraordinary one, because I do not know that any has attempted to make any representations as to l frequent the disease may be, and when people talk at its extreme frequency they mean, of course, only its r tive frequency. It is more frequent in my practice t in the practice of anybody else, simply because pati are sent to me from all over the world with the vari forms of this disease for treatment.

I have not the pleasure of knowing who Dr. Henry Coe is, but I must ask you to allow me to ask his thority for two statements which he fathers upon He says that he is not "prepared to accept the st ment of Mr. Tait that it was illogical to attempt to m a differential diagnosis between certain conditions, a on the contrary, he believed that it was illogical no attempt to separate the different classes of cases." want to know where in all the writings that I have iss on this subject this statement is to be found, for I c not find it. Again, I want to know how Dr. Coe ju fies the following sentence, "That against the sweep statement made by Mr. Tait, that in chronic inflamm tory disease of the ovaries the tubes were invariably volved, Dr. Coe protests." I should like to know wh in all my writings Dr. Coe finds this statement, for I ca not find it.

My friend, Dr. Lusk, says "that he had a suspici that even Mr. Tait did sometimes remove ovaries a tubes which might have been properly included amc the healthy." I want to know Dr. Lusk's authority this statement. I protest that his suspicion is groundle

Dr. Lusk says "that the theory that the abdomi cavity should be opened in doubtful cases was at bottom of the mischief which the paper was intended combat." Will Dr. Lusk tell us who has ever p pounded or supported such a theory of foolishness, will Dr. Lusk give up talking in this slipshod way confine himself to exact utterances?

What I presume he meant was what has been tern "Tait's Law" by my friend, Dr. Joseph Price, of Ph delphia, and the words of which he has quoted with entific accuracy, and not with the dimness of mem evinced by Dr. Lusk: "That in every case of dise of the abdomen or pelvis in which the health is destro or life threatened, and in which the condition is not dently due to malignant disease, an exploration of cavity should be made." Like Dr. Price, I think thi a matter to which everyone must be a convert, but t must not pervert it by alterations or suppressions s as Dr. Lusk has been guilty of; at any rate, if they they must be kinde nough to leave my name out of the cussion. I will not accept the paternity of such nonsen

The harm that has been done, and there can be doubt great harm has arisen, has come entirely from s shod readings of this law, and not from its observan Dr. Lusk is an example which all wise men will do w to avoid. I am, sir, etc.,

LAWSON TAIT

BIRMINGHAM, May 27, 1886.

ABNORMALITIES AND SURGICAL OPERATIONS UP THE VISCERA.—The occasional absence of one of t kidneys was recently the cause of a fatal result fr nephrectomy. During a course of operative surgery Vienna, the operation of left lumbar colotomy was p formed, and transposition of the viscera was found.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 29, No. 26 NEW YORK, JUNE 26, 1886 Whole No. 816

Original Articles.

ON FATTY AND SARCOMATOUS TUMORS OF THE KNEE-JOINT.[1]

BY ROBERT F. WEIR, M.D.,

PROFESSOR OF CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS; SURGEON TO THE NEW YORK HOSPITAL.

IN 1883 a young man presented himself at my clinic, at the College of Physicians and Surgeons, for the treatment of an affection of the knee-joint which had existed for nearly three years, and which did not result from any injury that he could recall. The joint was found moderately distended with synovial secretion, and was somewhat tender to the touch. He stated that this swelling diminished on several occasions by rest and by the use of an elastic bandage, and would suddenly recur, but without symptoms of interarticular "catching." On further examining the joint a mass of considerable firmness, like an ordinary loose cartilage and the size of an almond, was felt on the inner side of the patella. This could be moved up and down and crowded under the patellar ligament, and by pressure caused again to emerge, but it was evidently pedunculated, as it could not be forced into other superficial parts of the joint. He was sent into my wards at the New York Hospital, and under ether, October 13th, an incision two inches long was made down to the supposed cartilage. On nearing the capsule the increasing softness of the mass was observed, and when it was exposed it proved to be a portion of fatty tissue, harder than usual, and attached by a rather broad and thick pedicle, which stretched under the *ligamentum patellæ* and across the joint. As this mass could be pulled out with moderate traction, an attempt was made, in addition to the removal of the button-shaped end, to cut off, after ligating it, as much of the lipomatous growth as was possible. To accomplish this, even imperfectly, an unusual amount of manipulation of the joint occurred. To obviate the possible ill effects of this, the cavity of the articulation was washed out with a sublimate solution of 1 to 2,000, a drainage-tube inserted, an iodoform and sublimate dressing firmly applied, and the limb finally secured on a posterior splint. Notwithstanding the whole operation had been conducted on carefully carried out antiseptic precautions the case went to the bad. On the fifth day suppurative synovitis had set in, for which the joint was freely opened on the other side and drained. A hygroma over the internal hamstring, which was noticed to fill and empty as the joint was washed out, also required opening to evacuate the pus which the joint-drains did not control, and this was, in all probability, the starting-point of the extra-capsular abscesses which eventually riddled the popliteal space and calf of the leg. A vain attempt to save the limb terminated, November 27th, in an amputation of the thigh in its middle portion, which was closed by Neuber's deep occlusion method, with the result of entire primary union, so that the patient was able to walk about on crutches eighteen days after the last operation. The tumor removed was pink in color, with an irregular surface, and according to the report of the pathologist of the hospital, Dr. Peabody, was of the consistency of heart muscular tissue. Microscopically it was found to be made up of very vascular connective tissue, rich in fat and connective-tissue cells.

It cannot be doubted that the treatment of the case would have been more surgically correct had less been done to the fatty mass extending under the patella, and had also drainage been then made through the hygromatous pouch on the posterior aspect of the limb. The novelty of each of these conditions contributed to the errors, which should be kept in view in similar cases.

A case, very like the above, a few months later, came under the charge of my colleague, Dr. William T. Bull, and was as follows: Alice B. B——, aged twenty-four, entered the New York Hospital, March 2, 1884, for pain, stiffness, and swelling in the left knee, which had lasted over a year, and for the production of which she could assign no cause. She could always flex and extend the limb, and had not experienced any sudden catch or pain while walking, though several times, when quiet, she had seizures of short, sharp pain on the inner side of the joint. Seven months previously a painful lump had been recognized in the knee. On examination this was readily detected internal to the patella and was of the size of a large bean, hard, and movable for about an inch, parallel to the axis of the limb. Moderate joint effusion coexisted. Under a carbolic spray the joint was opened, April 3d, over the tumor, by an incision two inches long, the tumor exposed and lifted out, and its slender pedicle ligated and cut off. The wound was not sutured. Iodoform and sublimate dressings were tightly applied and the knee immobilized by a plaster-of-Paris dressing. The patient progressed satisfactorily. The dressings were removed at the end of a week, and she left the hospital on the eighteenth day. She was seen again May 15th, walking satisfactorily without pain and swelling, and only feeling a little weakness in the joint. The tumor was reported by the pathologist of the hospital to be composed chiefly of small, round, and spindle cells, with a minimum amount of intercellular tissue; also many giant-cells, much blood-pigment, and a few good-sized blood vessels; he therefore gave the diagnosis of a sarocma with giant cells.

A few days after this case Mr. William P——, aged thirty-nine, was sent to me by Dr. Henry F. Walker for relief from a loose cartilage in his left knee-joint. I had seen this gentleman two years before, and advised then the removal of a movable body from his joint, which he stated had at that time existed for three years, and which came without any injury, inconvenienced him but little, save after dancing, to which amusement he was much devoted. The mass was then about three-fourths of an inch in diameter, but its motion was quite limited in area. The pain that he felt was variable and at no time great, nor was it associated with any distention of the joint. He declined any surgical interference at that time. Within a year subsequent to his last visit to me he had much more uneasiness, and occasional painful fixation of the articulation, which would prevent his walking for a day or two, but which apparently produced no effusion. I found that the supposed loose cartilage had much increased in size, and that its excursions were greater than when I had last examined the knee, though they were still limited to the inner side of the joint. On April 19, 1884, under a carbolic spray and full antiseptic precautions, I cut down on the tumor, which was held for me by an assistant, and brought into view an irregularly shaped, softish growth, yellowish-pink in color, and marked by sundry ecchymotic patches on its surface, the

[1] Read at a meeting of the Practitioners' Society, held May 7, 1886.

latter evidently the result of prolonged terpsichorean efforts made a few evenings before. This mass was held by a long, slender pedicle which was tied and subsequently divided. The ligature of catgut, however, slipped, and allowed some two or three ounces of blood to be extravasated into the joint cavity. This was evacuated by pressure over the knee, and the hemorrhage checked by a continuance of the same for five or six minutes. In consequence of this mishap, instead of simply leaving the wound open, a drainage-tube was inserted, and the usual iodoform and sublimate dressings applied, and the limb placed at rest in a posterior splint. The tumor removed (see diagram) was one and one-half

inch long by one inch broad, and nearly three-fourths of an inch thick. It looked like an ecchymotic mass of fat, but its microscopic examination by Dr. Peabody showed it to be formed of connective tissue, containing in its meshes a great many round and spindle cells and much blood pigment. He classed it as a fibro-sarcoma. The recovery was uninterrupted. On the third day slight elevation of temperature took place, and on removing the dressing it was seen that choking of the egress of synovial secretion had been occasioned by the ordinary iodoform gauze used (which I have since abandoned from this and similar experiences). On its removal several ounces of clear synovia escaped, and the dressings were reapplied, with iodoform merely dusted on the sublimate gauze, with rapid restoration of the normal heat. The wound was found closed in a week. At the end of the third week the patient was going about. He has been frequently seen since, and his joint functions are fully restored, and no sign of local or other recurrence has been observed.

The rarity of both of these varieties of movable bodies in the knee-joint is great, and concerning those having sarcomatous elements I can find, in a fairly extended search, but one other case, and this is reported by Simon.[1] It was met with in a man, forty-six years of age, who had had an impaired knee-joint for over six months. On the inner side of the knee was felt a mass the size of a patella, which was cut down upon and extracted after division of its broad base. It was attached to the outer side of the patella. Full restoration of the joint-functions took place. The tumor, 5 ctm. in diameter and 1½ ctm. in thickness, was smooth and shining, and in color a whitish-red. In consistence it was soft and somewhat elastic, though in the interior were perceived hard masses the size of peas. Under the microscope the tumor was covered with epithelium, and its substance, rich in vessels, consisted of many spindle- and irregular-shaped cells, with oval nuclei and with occasional fatty cells. Blood extravasations were dispersed throughout the tumor. Besides these were found large, irregular-rounded, or slightly angular cells, as is found in sarcomata. Simon called this tumor a hypertrophied sarcomatous synovial fringe, and gave illustrations of the mass, gross and microscopical, which latter sustain his diagnosis. But of the lipomatous growths there are a number (eight[2] besides my own) on record. Volkmann[3] reports a case in a man, sixty-three years of age, which had lasted a year and a half. It produced occasional severe pain, though the catching between the bone-ends was not distinctly marked. It was removed under spray, with prompt recovery. The mass was the size of a cherry. The same author[1] gives a drawing of a remarkable fringing, about the patella and periphery of the joint-capsule, of fatty masses in great number, but of small size, taken from the case of J. Müller. König[2] states briefly that he had operated on two cases of such fatty tumors, one of which was of traumatic origin.[3] Barwell, in his work on "Diseases of the Joints,"[4] gives a noteworthy case, where two pedunculated fatty masses were removed from the same knee-joint, one of which was over the outer end of the bone, just above the patella, both only slightly movable, and associated with marked hydrarthrosis. They were, after removal, in shape like an oyster, lipomatous in character, and each about one and a half inch long. Recovery was perfect. No traumatism was recognized in the history of this case. Schmolck[5] has very recently published two additional cases of fatty tumors in the knee-joint, which have the interesting accompaniment of a synovial tuberculosis attached to them, but apparently without any causative action. The first of these was encountered in a man, twenty-three years of age, of good health and no tubercular history. His right knee-joint had been the seat of slight, repeated inflammation for years. In 1880 he was treated for hydrops articuli. In 1883, after active gymnastic exercise, he had severe pain in the joint, and after that time two small, rather movable soft bodies were felt in the joint. This was opened by Schmolck by a long cut on its inner side, for the treatment of what was considered a tubercular synovitis, but no discharge of fluid took place, but a prolapse of a large number of fringe-like masses, some of them of the size of the end of the thumb. A number of these which rested on the anterior surface of the femur were cut off with free hemorrhage. Besides this mass three others, larger and more polypoid, were found and removed by a separate incision on the outside of the joint. Antiseptic washing out, drainage, and dressing employed. Six weeks after the wound healed, which occurred promptly, the patient could bend the limb to an angle of 120 degrees, and was rapidly improving; could then walk without limping, and rapidly. Over the surface of these tumors were seen very many slightly defined pearl-gray dots. These miliary deposits were also seen over the portions of the synovial membrane which had been cut away. Microscopically the smallest fringe showed a slight fibrinous skeleton, with spindle-, round-, and star-shaped cells, and in these the fatty tissue was but small. In the larger masses this latter tissue was the main constituent. In some of the larger miliary deposits giant-cells were seen, with occasional bacilli in them.

The second case reported by the same observer occurred in a man, fifty-two years of age, without tubercular antecedents, whose right knee-joint, from a strong exertion, became slowly enlarged with synovial effusion, but no symptoms of joint-locking occurred. Several soft, flabby masses could be distinguished, one as large as a twenty-five cent piece. The articulation was opened on each side of the patella, and after the escape of the synovial fluid many deep red folds projected into the wound, studded with multiple grains of minute size. The rest of the capsule was also much thickened. These masses were removed by scissors and scalpel, and the joint thoroughly washed out with an antiseptic solution. Improvement, but not a cure, followed. This was apparently a case of thickening, from a rather early treated tubercular synovitis, as bacilli were found microscopically, and it should hardly be classed, as Schmolck does, among the lipomatous growths, for such swollen synovial projections are not infrequently seen even in uncomplicated traumatic synovitis.

Barwell assigns, as a mode of production in such cases, that fatty and other formations may project farther and

[1] Langenbeck, Archiv f. klin. Chirurg., Bd. vi., S. 573. 1865.
[2] Nine, if a doubtful one of Schmolck's is included.
[3] Beiträge für Chirurgie, S. 183, 1875.

[1] Billroth and Pitha: Handbuch der Chirurgie, Bd. ii., S. 576.
[2] Lehrbuch der Chirurgie, Bd. iii., S. 476.
[3] One of these cases is also credited to Riedel, his assistant.
[4] Wm. Wood & Co., 1881, p. 193; also Internat. Cyclo. of Surg., vol. iv., p. 339.
[5] Zwei Fälle von Lipoma arborescens genu. Deutsche Zeitschr. f. Chirurg., Bd. xxiii., Hft. 3 u. 4. 1886.

farther into a joint, and, by a kind of hernia inward, may be transformed from an extra-articular to an intra-articular situation. A glance at the admirable plates (Nos. 32 and 35, pp. 350 and 365) in Morris' work on the "Anatomy of the Joints," 1879, will show how readily this can happen with the fatty tissue beneath the *ligamentum patellæ*, and also how such lipomatous tumors can be developed elsewhere in the folds of the synovial membrane, which often normally contains an appreciable amount of fat. Volkmann also presents the same explanation, and König remarks that the retro-capsular space above the condyle is frequently the site of fatty deposits, and which might be the genesis of lipomatous joint tumors. I should judge that this etiology will be accepted in connection with those cases where the element of traumatism is absent. But an injury, when developed in obtaining the history of a case of lipomatous tumor of the knee-joint, may be considered often as a satisfactory cause of its production. This has been well shown in a rather striking case reported by Lauenstein, of Hamburg.[1] This surgeon twice removed tumors of a fatty nature from the knee-joint, and in both instances a marked trauma tism had been received. In one, however, in which the tumor was the size of a plum, and where there had been, three years before, an operation near the articulation for the removal of an enchondrosis, the influence of this injury upon the causation of the fatty movable body in the joint was not clearly apparent; but in the second case the influence of an antecedent accident could be more distinctly made out. It happened in a sailor, aged forty-two, who had sustained, several years prior to his reception into the Seaman's Hospital at Hamburg, a severe compound fracture of the femur at its lower third, which had united with considerable deformity. At a later period a fracture of the patella of the same side had taken place, with rather broad ligamentous junction and decidedly impaired function of the limb. The evening before entering the hospital he had fallen and ruptured, or stretched, the band that held the patella fragments together, and his limb was rendered so useless that wiring of the patella was, after the subsidence of swelling, etc., undertaken. In the performance of this operation it was noticed that the lower part of the joint, from the patellar ligament backward to the crucial ligaments and the *fossa condyloidea*, was filled with a coarse lump of fat, which had (as König had previously suggested) probably been forced through the overlying ligamentum mucosum by the force of the injury which had caused the fracture of the patella a year previously. This mass was removed and the operation completed, with a very tardy but good result. Lauenstein offers the explanation that his first case, where the pedicle arose from the anterior surface of the femur, just above the cartilage, might be classed in those spoken of by König (alluded to above) as due to a gradual accumulation of retro-capsular fat, and that when so occurring it is to be expected that the development of such will be more gradual than those due to the rupture of the subligamentous fat into the joint.

Since treating my last case I have encountered two knee-joints in which I have detected small, movable, soft masses which gave rise to no disturbing symptoms, and which therefore were not subjected to surgical interference. One has been under observation more than a year, without any inconvenience in locomotion. The practical outcome that can be made from the review of so few cases of a somewhat obscure affection is, that too much effort should not be made in the fatty growths to effect their total extirpation, since the removal of the floating portion is all that is called for; and that in the cases where the suspicion of sarcoma is microscopically revealed, the subsequent progress of the two cases observed in the report leads to the belief that the same conclusion will be arrived at.

37 West Thirty-third Street.

[1] Centralblatt f. Chirurgie, No. 49, 1884.

SARCOMA OF THE CEREBELLUM IN THE CHILD OF A SARCOMATOUS MOTHER.[1]

By GEORGE L. PEABODY, M.D.,

PHYSICIAN AND PATHOLOGIST TO THE NEW YORK HOSPITAL.

The brain that I have to show you this evening, Mr. President, was removed from the head of a child who died in my service at the New York Hospital. As the interest of the case turns somewhat upon the question of heredity, I will give you the history of the child's mother at some length before proceeding with that of the child.

Mary F——, aged twenty-four, a native of the United States, married, was admitted into the New York Hospital on October 15, 1884. Eight years before, she had noticed a swelling beneath the middle of left side of the inferior maxilla. Three years ago a similar swelling occurred on the right side of her neck. These had grown gradually and without pain. Her general health was excellent at this time.

The tumor on the left side of the neck was as large as a cocoa-nut; that on the right side the size of a small lemon. The skin over them was normal and freely movable. They were smooth in outline, they fluctuated, did not pulsate, and were neither painful nor tender. On aspiration blood only was withdrawn. The tumor on the left side was removed by Dr. W. T. Bull, on October 20th, and that on the right side on November 3d.

Each of these tumors was found to be enclosed in a fibrous capsule, and to consist, besides the blood, whose presence was proved by the aspirator, of rough, shaggy, fleshy masses, growing from the periphery inward toward the centre. This fleshy interior was made up of small, round, and spindle cells in an abundant fibrous stroma. Blood-channels without distinct walls were very numerous, and some of them were large. Many scattered masses of blood-pigment showed that hemorrhages had occurred.

The wound healed kindly, and the woman left the hospital in good condition. These tumors were both fibro-sarcomata.

On December 29, 1885, she was again operated upon by Dr. Bull, and a tumor removed from the left side of the neck, at the site of the growth previously described as removed from that situation. It was about the size and shape of a small hen's egg. It had attracted the patient's attention soon after the previous operation, and had grown steadily. It was almost entirely enclosed in a fibrous capsule, and was very rich in blood, which was found in large vascular channels without distinct walls. It was composed largely of small spindle cells in a fibrous stroma, and was regarded as a spindle-celled sarcoma.

The wound did well, as on the previous occasions, and the patient soon left the hospital in good condition.

A month later she noticed a lump on the left side of her back, between the internal border of the scapula and the spinal column, which in two months had attained the size of a goose-egg. It was hard, smooth in outline, not fluctuating, freely movable, not painful, but slightly tender. The skin over it was normal. This was removed by Dr. Markoe on March 11, 1886. It was found histologically to be in part a fibro-sarcoma and in part a spindle-celled sarcoma. It was not very vascular. The wound did well, and the patient again left the hospital.

On May 6, 1885, she brought her boy, three years of age, to the hospital, and he came under my care. She said that he was always a well child until two weeks before. At that time he began to complain of headache, and became unable to walk, was restless at times, and stupid at others. He had had no convulsions. On admission his temperature was 100°. He was a fairly nourished child. His abdomen was prominent, his chest not very well developed. Here and there over his body were round, pigmented, depressed cicatrices. His pu-

[1] Presented at a meeting of the Practitioners' Society on May 7, 1886.

pils were normal in size, and reacted slowly to light. There was slight internal strabismus. He would lie with his extremities all partially flexed much of the time, though often very restless, and making automatic movements with his arms and hands. His head was thrown back, his neck was stiff, the muscles of the neck being very rigid. He took but little notice of what was going on about him, though he decidedly resented interference or examination. His head was large, measuring twenty and a half inches in fronto-occipital circumference. The fontanelles were closed. His respiration and pulse were normal.

On the next day he became quieter, and the rigidity of the muscles of the neck disappeared. When he was placed in a sitting posture his head would fall forward. Ptosis of both eyes began to be developed. His bowels did not move, in spite of a dose of compound licorice powder given on the previous night, and followed by an enema. He began now to suffer from retention. There was no photophobia. After a day or two his bowels were freely moved by castor-oil. Ophthalmoscopic examination revealed a normal fundus in each eye. In a few days double ptosis became more marked, and left facial paralysis was observed. All this time his temperature, respirations, and pulse remained substantially normal, as was also his urine.

After ten days of constant use of the catheter he was given a cystitis and balanitis from which he never recovered. He ate well, but from day to day became more and more stupid. After about two weeks' hospital residence he developed a bronchitis of the larger bronchi. Three weeks after he came under observation he died, on May 27th, having become progressively weaker and more stupid during the previous ten days. A few hours before death he had convulsive twitchings of the hands and feet, but no general convulsions. There was a rise of temperature just before death, ptosis became complete, and the pupils became tightly contracted and not responsive. The post-mortem temperature was 107°.

The autopsy was made six hours after death. The lungs were congested and œdematous. Excepting the brain, now to be described, the other organs were substantially normal.

Brain was well developed. Pons and medulla were both seen to be very much flattened, symmetrically, and the cerebellum unusually prominent. The convolutions were normal. A vertical section through the median line, passing through the cerebellum, cuts into almost exactly equal parts a tumor occupying in the first place the inner two-thirds of the white matter of each lobe of the cerebellum, extending longitudinally from the corpora quadrigemina, along the surface of the medulla, to a point below the decussation of the pyramids, and in width occupying the entire thickness of the cerebellar lobes, a lamina of the superior vermiform process apparently covering the tumor above.

The corpora quadrigemina, which are very much flattened, overlie the anterior upper extremity of the tumor on each side. The tumor seems adherent to the floor of the fourth ventricle throughout, but the substance of the pons and medulla seems to be invaded by the growth only for the depth of a millimetre.

The tumor is in its antero-posterior diameter 6.5 ctm.; its largest vertical diameter is 5 ctm.; its longest transverse diameter is 4 ctm. Its shape is ovoid, the small extremity being forward.

The tumor occupies only the white matter of the cerebellum, its convolutions being apparently free.

The aqueduct of Sylvius and the fourth ventrical seem to be completely obliterated.

The microscope reveals the nature of the growth to be a small round-celled sarcoma of moderate vascularity. I place some sections under the microscope, and you see the characteristic vascular spaces of large size with very thin walls, and some of them without well-defined walls; but the blood-supply is not so great as it frequently is in sarcomata of this class.

The position, size, and general characteristics of the tumor are still well shown in the brain as it lies before you.

The chief interest centres in the occurrence of this tumor of the cerebellum in a child whose mother has repeatedly suffered from sarcomata.

Clinical Department.

A NEW AND ORIGINAL METHOD OF SURGICAL DRESSING.

DR. CHARLES W. STROBELL, of Middletown Springs, Vt., writes that he was led by the paper of Dr. Hamilton, and the criticisms upon it in recent numbers of THE RECORD, to consider what improvements might be made upon the modes of antiseptic dressing now in use. The main objection to the ordinary dressings of cotton-wool, gauze, etc., is that it conceals the wound from view, so that inflammation, secondary hemorrhage, and other accidents cannot be detected at their onset, and may become only too well established before the surgeon becomes aware of their existence. In order to obviate this, Dr. Strobell proposes to cover the wound with a thin glass globe, so constructed as to fit closely to the part, provided with two openings for drainage-tubes and a large opening on the top to permit of access to the wound, in case of need, without removing the globe. These openings are provided with glass stoppers, so that they can be hermetically closed. The base of the globe is provided with a flange, and its sides, up to within two inches of the drainage-tube openings, are roughened so as to facilitate the adhesion of the isinglass plaster used in sealing it. When applied to stumps after amputation, a thin rubber band, three inches wide, is applied over the flange, so that it rests with one-half its width on the integument of the limb to secure additional safety. The flange is covered on its external surface with isinglass plaster, adhesive on both sides, so that the band of rubber shall adhere firmly to the globe. In the case of an amputation at the knee-joint, after the sutures and drainage-tubes are in place, the wound is capped with a disinfected globe of the proper size to fit snugly over the limb, the drainage-tubes in the globe being on a line with the anterior surface of the wound. The rubber band is now turned down over the limb, and strips of adhesive silk, one inch in width and twelve inches in length, are applied longitudinally from the upper part of the ground portion of the globe up the limb, each strip overlapping slightly the preceding one, a final strip being placed circumferentially around the flange and covering in the ends of the longitudinal ones. In a case of laparotomy an oval-shaped globe may be applied in a similar manner.

The following are the conclusions of the writer: "The method commends itself to the profession: 1. In the complete isolation of wounds that can be obtained in the event of infection of hospital wards by erysipelas, etc., as the globe can be hermetically sealed. 2. All changes can be noted clearly at any moment, with the minimum amount of discomfort to the patient, thereby increasing largely his chances of recovery. 3. The perfection of drainage, which has never been obtained in so great a degree, obviating the necessity of soaking off bandages saturated with dried pus, blood, and serum, often adhering so firmly to the wound that the most gentle manipulation is required to avoid laceration of the tender granulations. 4. Secondary hemorrhage can be detected at the earliest possible moment. 5. The first evidence of inflammation can be noted, and its movement forestalled by removal of the cause. 6. The action of topical remedies can be observed without exposure of

the wound to the air. 7. The dressing can be adapted to wounds of almost every description. 8. Refrigerant and thermal water-dressings can be applied with the utmost facility. 9. Lotions or powders can be easily applied to the wound through the main opening in the globe without disturbing the dressings. 10. If it is desired to prevent the ingress of infected air, the drainage-tubes can be filled with plugs of iodoformed or carbolized cotton. 11. In the event of inflammatory swelling rendering the constriction of the base of the globe excessive, the apparatus can be replaced by one of larger size with less expenditure of labor and time than is required in the application of a Lister dressing. 12. Facility is afforded for determining the therapeutic effect and germicidal action of direct sunlight in the treatment of wounds. 13. By means of long, slender forceps and scissors the sutures, drainage-tubes, and adhesive plaster may be easily removed through the main aperture in the globe. 14. The weight of the apparatus is not as great as that of the ordinary Lister dressing. 15. If perfectly applied, there should be no more constriction of the limb than results from moderately firm bandaging. 16. The expense is comparatively light, as the globes can be used indefinitely, being thoroughly disinfected by boiling water. 17. The apparatus may be adapted to any external surface by taking, in special cases, wax impressions and transmitting them to the manufacturer. In conclusion, I will say that my claim to originality is, in my opinion, well founded, as nowhere in surgical works have I seen glass mentioned, used in the way I have indicated, as a protective dressing."

Progress of Medical Science.

Delusions Caused by Intestinal Accumulations. —Dr. A. E. Bridger relates the following interesting case in the *British Medical Journal* of April 10, 1886. The patient, a lady fifty years of age, had been married twenty-nine years, had brought up a family of six children, and had always enjoyed fair health until about a year ago. At that time she began to lose appetite and flesh; her skin became harsh, dry, and yellowish in tinge; her digestive powers became greatly impaired; once or twice there had been some vomiting of blood, and a troublesome dry cough had developed itself. Remedies failed to relieve her symptoms; and, about eight months ago, mental delusions began to show themselves. These at first took place invariably at night, and were, from first to last, of one class only—namely, that connected with taste and smell. At first, two or three times a week, and of late nightly, the patient would complain that some one was burning sulphur or phosphorus in the room. She became impressed with the idea that her husband and children produced these smells in order to annoy her, and, if possible, to kill her; and twice she had left the house, and remained away for days, in order to rid herself of her supposed persecutors. The smells, however, followed her wherever she went, and she came to believe herself the victim of a widespread conspiracy. About this time she began to refuse food, alleging that it contained poison, and that she could distinctly taste arsenic and sulphur in everything that was prepared for her. When first seen by the writer she was much emaciated, and disinclined to talk, had a stupid and spiritless aspect, a cachectic look of the skin, yellowish conjunctivæ, etc. She made no special complaint, other than of the conduct of her friends. The bowels were said to be regular. The urine was thick, depositing lithates in abundance; no albumen or sugar. Examination of the special senses and of the chest resulted negatively. Inquiries about the abdomen elicited the fact that a sense of weight and of movement had latterly been much complained of, and, on inspection, the position of the transverse and descending colon was seen to be occupied by a large elevated ridge, and the movements of the smaller intestine were distinctly visible through the thin abdominal walls. The elevated ridge was produced by an immense collection of hardened fæces, which it took several days, with the aid of spoon-handles, injections of glycerine, castor-oil, hot water, and the free use of mild aperients, to remove. Within a few weeks after the removal of this accumulation the patient increased greatly in weight, her appetite returned, and she slept easily and quietly. Her delusions disappeared, and her friends stated that she was better, both mentally and physically, than she had been for years.

Herpes Facialis affecting the Eye.—At a recent meeting of the Ophthalmological Society of the United Kingdom (*British Medical Journal*, April 17, 1886), Mr. W. H. Jessop read a paper based on four cases of herpes facialis affecting the eye. In the first case the herpes followed the track of the external division of the supra-orbital nerve; the eye was affected with iritis, keratitis punctata, and increased tension; recovery, with perfect vision, occurred quickly. In the second, herpes along the lachrymal division of the ophthalmic nerve was followed by keratitis punctata and interstitialis. In the third case there were herpes along the frontal and lachrymal divisions of the ophthalmic nerve, early anæsthesia of the cornea, and superficial keratitis. In the fourth case the herpes followed the course of the infra-orbital nerve, and there were phlyctenular ulcers on the cornea. It was pointed out that herpes facialis followed the distribution of the fifth nerve, and that, when the eye was involved, the branch affected was usually the ophthalmic, but sometimes the superior maxillary. The most usual distribution was along the frontal, but there was no recorded instance of the nasal being the only branch affected, nor of the nasal and lachrymal branches being simultaneously attacked, while the frontal escaped. The fourth case was, he believed, the only recorded instance of the cornea being affected in herpes infra-orbitalis. Mr. Hutchinson had pointed out that the eye was affected if the oculo-nasal branch were attacked. The most common ocular complications were swelling of the lids, conjunctivitis, and increased lachrymation; the cornea might become affected by superficial ulceration, phlyctenulæ, interstitial keratitis, or keratitis punctata; and neuroparalytic keratitis had been recorded. Serous or plastic iritis might occur; and the pupil, though generally contracted, had been found sometimes dilated. The chief affection of the fundus was papillitis. The tension was said to be generally lowered. Palsy of the extrinsic muscles and paresis of accommodation had been recorded. After referring to the *post-mortem* evidence of neuritis and dilatation of the ophthalmic artery, Mr. Jessop expressed the opinion that all the ocular symptoms, with the exception of the rarest, might be explained by supposing a dilatation of the vessels due to irritation of the sensory nerve. Vascular dilatation lasting some time would especially influence such a structure as the eye. If the whole attack were due to the neurotic storm, the different nerves would be affected nearly simultaneously, and the ocular symptoms would be coincident with the cutaneous eruption, which was not the case. Mr. Jessop attributed to Mr. Hutchinson the credit of first separating herpes accompanying the ophthalmic division of the fifth nerve from erysipelas.

The Treatment of Menorrhagia. — In young girls, as a rule, a powerful tonic treatment is required. Sometimes the iron is not sufficient, and I have to resort to astringents and tonics not ferruginous. I have used bichloride of mercury and quinine in these cases. Occasionally we meet with cases of this kind in which the patient apparently is in robust health. Under such circumstances I know of nothing better than iodide of potassium.—*Dr. Wm. Goodell.*

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHED BY

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, June 26, 1886.

THE QUESTION OF MEDICAL ADVERTISING.

IN order to succeed in the practice of his profession a young physician, or an old one, must not only possess a knowledge of his science and the ability to apply it, but must also make himself known to others, or, as it is usually called, must advertise himself. Great erudition and skill are practically of little value unless they can be made use of to the profit of the possessor or of his fellows. Doctors must have patients, and the problem which all must solve is how to secure patients in order to turn the capital of knowledge into a means of support.

We have received a communication from a valued Iowa correspondent, "E. H. H.," in which the writer advocates newspaper advertising as the surest, most honorable, and best method of securing a profitable clientele. He says:

"Considering the change in the mode of doing business in all trades and professions, there is a possibility that there is some consistency in a demand for some change in ours as well. Specialization in medicine, improved travelling facilities, and the demand on the part of the public for proficiency in all branches of knowledge, change to so great a degree the situation, that a new definition of what constitutes dignity in advertisements seems loudly called for. Advertisement—that word which causes such a bellicose flush to mount into the face of the orthodox—is a word which describes the motive of much of the conduct of a great majority of our brethren in the profession. They must know that to it they owe three-fourths of their success. We must advertise, that is certain. Many are the ways that the physician has to resort to, aside from his 'unintentional' notices in the papers. He spends much of his time at the public resorts—at the corner grocery, at the lodge, church, or saloon—the grade depends upon the social class among which he expects to get his practice, or the town in which he has cast his lot. A higher grade of the methods in advertising is lecturing before schools, exhorting in churches, officiating in lodges, publishing advice, and heading new movements. The founding of the numerous medical colleges figures largely under this head, and may be considered the best of all. If the young physician cannot do these things with sufficient suavity and polish, he will certainly starve on the threshold of his career, or be driven from it to some employment under salary, or to some business that affords an opportunity to make some use of the usual ways of becoming known.

"Is there not, in the relations of the profession of medicine to the public, a necessity which is repugnant and nauseating to a really modest man? Would it not be more dignified to be allowed to announce himself by the methods of a first-class business, under the restrictions above cited, and governed in it by his taste, announcing his business, his place, his facilities, so far as his appliances are concerned, for doing that business? If he has a hospital, let him announce it, leaving out all mention of personal qualifications, advantages had, or relations sustained heretofore; these are the elements that are out of taste and undignified, and the part that should be discountenanced.

"Unwholesome laws which prevent the growth of giants in a profession or trade, but which trim all alike as a hedge fence, on the ground of fairness toward their neighbors in the same business, dwarf the whole system, and bear fruit below the standard of which the human mind is capable, and prevent a healthy action of that law which determines the fittest man for the work. Every facility consistent with right and true dignity and adaptation to the age should be allowed for development. Life is short, and there is no reason why half of it should be wasted waiting for a living practice only, or that half of it should be given to illegitimate work to make one's self known.

"These arguments, it is true, do not so much apply to the family doctor, or to the attendant on acute diseases and routine practice, as to the practitioner in chronic diseases, who finds himself in circumstances very different. People now are not satisfied with the final judgment of the man who has a general knowledge of the whole round of medical and surgical practice, but seek for the specialist, however distant, to look into their cases, before they are willing to rest their chances for weal or woe. It is easy to learn where to invest money, to get an education, and the safest route to take on a journey; but the same source from which people obtain this information directs them to the lowest level of the representatives of our profession, where they are swindled and get the least skill in the art."

We agree with our correspondent that there is much that is reprehensible in the methods too commonly employed by many physicians to make themselves known and to keep themselves prominently before the public; but we doubt whether the substitute which he proposes would be a desirable one in any sense. A simple and modest advertisement in the public journals would be no guarantee of the advertiser's ability or skill. If all should advertise no one would be more conspicuous than his fellows, and the least conscientious and honorable would be the very ones who would have the most conspicuous and alluring display. The writer applies his remarks more particularly to the specialists; but, whatever may be urged in favor of the general practitioner presenting his claims for patronage in this manner, we cannot admit that the specialist would be justified in so doing. The part of the specialist in medical economy is to assist the general practitioner in cases in which more than the ordinary knowledge and skill is required. It is to the medical profession, and not to the public at large

that the specialist should look for his practice. The family physician has the physical well-being of his patient committed to his trust, and is responsible for its preservation. If he enjoys the confidence of his patient he will naturally be consulted in the selection of a specialist, when necessity may arise, and will recommend the patient to the man whom he considers the most capabl and skilful. And surely he would not be influenced in his choice by a well-displayed newspaper advertisement.

We see no objection to a specialist, if he so desire, printing a simple card in the medical journals, but there is another and better way. Let him not only assert his ability to treat certain diseases, but let him prove that he possesses the requisite knowledge by well-written articles. The columns of the medical press are open to all who have anything to say, and who can say it in a way to interest their professional brethren. If a man can show his fellows that he is an expert in his particular field, he will not have to wait long for patients, and he will receive them on the advice, and with the good will, of the family physician. But let him seek, through advertisements in the public press, to draw to himself patients, against the will of their medical advisers, and he is close to the borderland of charlatanism. Honest professional work is what pays best in the long run.

RUMINATION IN MAN.

Among the oddities of medical literature are the accounts which appear from time to time of merycism or rumination in the human being. There are some forty cases of this nature now on record, one of the most recent of which is reported by Johannesen in the *Zeitschrift für klinische Medicin*, vol. x., No. 3. The subject of this relation began to ruminate when he was four years of age, the affection being first noticed during convalescence from measles. About fifteen minutes after a meal a portion of the ingested food was regurgitated, and after this was swallowed another bolus would make its appearance, the process being repeated during a variable period of from ten minutes to an hour. The patient could, by an effort of the will, return the food-mass to the stomach before it had entered the mouth, but all efforts made to prevent the expression of the bolus from the stomach were without effect, and usually caused pain. The man seldom vomited, and never suffered from acid eructations. The matter regurgitated had no unpleasant taste, but, on the contrary, the act of rumination was very agreeable. Œsophageal examination was easy, the sound passing the cardiac orifice with facility, but no diverticula could be discovered in the stomach or œsophagus, nor was there any apparent dilatation of these organs.

In the article on merycism in Jaccoud's "Dictionnaire de Médicine et de Chirurgie," M. Blanchard gives a very interesting account of the affection as he has observed it in his own person, being himself a ruminant. He says that he was always a *mérycole*, and did not imagine that there was anything abnormal about it until he discovered the fact during his studies in physiology. The process is a pleasant one, and the writer confesses to having often selected certain articles of diet in anticipation of the agreeable sensation which he would experience during rumination. If the food have been in the stomach for three or four hours, however, the regurgitated bolus usually has a bitter or sour taste.

The cause of merycism is somewhat obscure. It does not seem to be, strictly speaking, a pathological process, for the subjects of the affection seldom suffer from any unpleasant or painful gastric symptoms. Most of the reported cases have occurred in males, and many of them in large eaters, or else in those who bolt their food without having masticated it thoroughly. The affection may begin at any period of life, but occurs for the most part as a congenital condition, or at least begins so early in life that the subjects do not remember ever to have done otherwise than ruminate. Brown-Séquard suffered for a time from acquired merycism, brought on by certain experiments to determine the period of time required for the digestion of various aliments. He swallowed a sponge attached to a string, in the centre of which the food was contained. After a time he found that his stomach rejected the sponge, and soon it expelled whatever food was swallowed as well. This regurgitation of food continued for a considerable time after the sponge experiments had been abandoned. In most cases, however, no definite cause can be invoked to account for the trouble. In Johannesen's case one of the brothers of the patient was an epileptic, and some other observers have noted a similar relation, if such it be, between epilepsy and rumination.

It would seem probable that merycism should be classed among the neuroses, since in most cases evidence of gastric disease is wanting. The act is probably excited by spasmodic contraction of the muscular coat, assisted by the diaphragm and abdominal muscles, the propulsion upward of the food being favored by a somewhat patent condition of the cardiac orifice. It is not unlikely that the affection may be beneficial, rather than otherwise, to its subjects, since the food, if not subjected to a second mastication and admixture with saliva, might put too great a tax on the stomach, and thus excite gastric troubles.

ON THE AFFECTIONS OF THE JOINTS WHICH COMPLICATE OR FOLLOW SCARLATINA.

An admirable paper bearing the above title was recently read by Dr. Ashby before the Manchester Medical Society. The author traces the literature of the subject through the writings of Trousseau, who admitted the existence of a scarlatinal rheumatism. Bristowe recognized the fact that the joint trouble might go on to suppuration. Dr. Ashby's paper is a summary of our knowledge at present. He makes four classes of scarlatinal joint troubles: first, synovitis; second, acute or chronic pyæmia; third, acute or subacute rheumatism; and fourth, scrofulous disease.

In synovitis he has found the wrists and fingers the most frequent seat of the lesion. Sometimes the tendon sheaths of the flexors and extensors are also involved. The regular symptoms are pain and tenderness, less often redness and swelling. In one case chronic synovitis resulted, lasting sixty days, but the fluid was finally absorbed. The synovial affection generally comes on from the eighth to the tenth day. True rheumatism, however, generally occurs during convalescence, or at

the commencement of the febrile attack. Synovitis is more common in the prolonged cases. Hæmic murmurs are often heard. They are adjudged to be of this nature because of their disappearance during convalescence. From this fact, and from the time of invasion, he claims the possibility of a differential diagnosis between simple synovitis and true rheumatism.

For the synovitis he has prescribed sodium salicylate, more as a matter of routine than from any faith in the drug. He regards the disease as a fugitive one, generally disappearing without any treatment whatever.

It is the septicæmic form which is the most dangerous. Even in cases of recovery permanent cardiac mischief results. The tubercular diathesis naturally determines the nature of a joint complication.

WITCH-HAZEL.

THE history of popular domestic remedies for bruises, sprains, and other minor surgical ills is full of interest, and it shows how much a matter of fashion is the mode of treating these complaints. According to Drs. John Marshall and H. C. Wood, in *The Therapeutic Gazette*, thirty years ago the American housewife gathered the flowers of St. John's wort, soaked them in sweet oil, and made with them a so-called "red-oil," for the solace of aching limbs. Later arnica became the universal panacea, while in recent years this has been superseded by various "extracts" of witch-hazel (*Hamamelis virginica*).

Doubtless physicians have often been obliged to listen to stories of the wonderful virtues of this, the mother's latest favorite, and they have perhaps often wondered whether there was any subtle and mysterious element in this plant which evaded the chemist and the pharmacologist, and was only brought out by contact with bruises and black-and-blue spots of all sizes and dimensions. For our text-books, so far as they have spoken, give no reason for witch-hazel being any better application for injured surfaces than arnica, or alcohol, or a dozen other things.

In *The Therapeutic Gazette* for May last, the authors to whom we have referred report the results of experiments made to solve this problem of the popularity of witch-hazel.

A very strong watery distillate of the drug was made, and this was injected in enormous doses into several frogs and into one mammal. The results were absolutely *nil*, and the experimenters conclude that the volatile principle of hamamelis is entirely inert.

Experiments were then made to determine the presence of a volatile oil, and the composition of the alcoholic and ethereal extracts. No tests of physiological properties were made, but the writers state that their conclusions were in harmony with those reached by Dr. Hector Guy, of Paris, who found as a result of numerous experiments that hamamelis virginica is not toxic, that it has no special action on the vascular system, and that it contains no alkaloid. There is a very large percentage of tannic or gallic acid in the fluid extract, and to this and the alcohol it is believed the active properties of hamamelis, such as they are, are due.

The famous witch-hazel preparations, therefore, which cure so many diseases, external and internal, appear to be nothing but dilute tinctures of tannin, made odorous by an inert volatile oil. We fear that there is nothing in the drug which will prevent the fancies of fashion, or the exigencies of trade from overturning its supremacy. Mothers may return to arnica, but more likely some new and wondrous extract will take its place. We shall yet write the history of the decline and fall of witch-hazel.

News of the Week.

DR. D. BRYSON DELAVAN has been appointed Professor of Laryngology at the New York Policlinic in place of Dr. E. Elsberg deceased.

DR. COE'S REPLY TO MR. LAWSON TAIT.—Dr. H. C. Coe writes: "Will you kindly allow me a small space in your columns, in order that I may reply briefly to a rather imperious question which Mr. Lawson Tait does me the honor to address to me in your issue of June 19th? He asks for my authority for two quotations which appeared in my recent paper entitled, 'Is Disease of the Uterine Appendages as Frequent as it has been Represented?' I refer him to the original paper (and *not* to a condensed society report), in which he will find the desired information. The second statement, I acknowledge frankly, was made on the authority of Dr. Thomas, as was also stated in the paper. Mr. Tait should not forget that his writings (especially the *polemical* ones) are numerous, and that he may sometimes forget written and verbal statements, which nevertheless carry great weight with the profession at large, especially in America. When he comes to consider my position more calmly, and to remember that the obnoxious paper was read before an American audience, Mr. Tait may find that, so far from seeking to lessen the value of his work in the eyes of my countrymen, I have only insisted upon the very limitations of the so-called 'Tait's operation,' upon which he himself laid such stress in his Edinburgh address."

CONVEYANCE OF INFECTION BY FLIES AND MOSQUITOES.—As the warm season sets in, it may be well to be reminded of the fact that Dr. Maddox has published in the *Journal of the Royal Microscopical Society* some experiments on the subject of flies. He fed flies in confinement on the comma bacillus obtained by culture, and found that this organism "can pass through the digestive tube in insects in a living state." Previous experiments by Dr. Grassi, of Rovellasca, point in the same direction. Dr. Manson has proved the conveyance of the ova of filaria sanguinis hominis by mosquitoes, and it has very recently been asserted that yellow fever can be communicated by the same insect.

THE APOSTLE OF THE LEPERS AND THE CONTAGIOUSNESS OF LEPROSY.—From the London papers we observe that Father Damen, who has long been known as the Apostle of the Lepers of Molokai, is beginning to suffer from the disease with which he has been so long in contact. For years he has lived on the island upon which are collected the lepers of the Sandwich Island group. For a long time Father Damen continued in good health, but in a letter written recently he says: "Impossible for me to go any more to Honolulu, on ac-

count of the leprosy breaking out on me. The microbes have finally settled themselves in my left leg and my ear, and one eyebrow begins to fall. I expect to have my face soon disfigured. Having no doubt myself of the true character of my disease, I feel calm, resigned, and happier among my people. Almighty God knows what is best for my sanctification, and with that conviction I say daily a good *Fiat voluntas tua.*"

THE FIRST BRITISH LADY SURGEON.—The first lady surgeon qualified in Great Britain was invested with the Letters Testimonial of the Irish College of Surgeons recently, under the new power granted to it by its charter of 1885.

ARSENIC IN SKIN DISEASES.—The editor of the *Journal of Cutaneous and Venereal Diseases* is desirous of ascertaining to what extent arsenic is used by American physicians in the treatment of diseases of the skin, and also the results of their experience as to its therapeutical value. Information upon the following points is requested of every physician who reads this: Are you in the habit of employing arsenic, *generally*, in the treatment of skin diseases? In what diseases of the skin have you found arsenic of superior value to other remedies? What ill effects, if any, have you observed from its use? What preparation of the drug do you prefer, and in what doses do you employ it? Address Editor of the *Journal of Cutaneous and Venereal Diseases*, 66 West Fortieth Street, New York.

SUCCESSFUL PORRO OPERATIONS.—Professor Breisky, of Prague, has performed six Porro operations, and in each case saved both mother and child.

THE SEQUEL OF TWO GREAT OPERATIONS.—At a recent meeting of the Basle Medical Society, Professor Socin, of Basle, showed the stomach from a woman in whom he had performed, first, resection of the pylorus, and, subsequently, a year later, gastro-enterostomy. The patient died, from return of malignant disease, eighteen months after the second operation.

OF THE DOZEN DOCTORS IN THE ENGLISH PARLIAMENT only four voted with Gladstone for Home Rule.

"THE NEW MEDICAL SCHOOL AT OXFORD," says *Truth*, "is hardly a success so far. At the last examination, three learned 'dons' were duly appointed to examine, at a fee of £15 each, but only one candidate presented himself. He was ploughed. People are naturally asking what is the use of paying £1,000 a year to a Professor of Medicine to teach our students nothing."

MEDICAL EXHIBTION IN BERLIN.—An exhibition is to be held in September in Berlin, at which it is intended to present a picture of the progress made in recent years in all departments of medical research. The sections will include physiology, pathology, anatomy, and general pathology, pharmacology, dermatology, and syphilology, surgery, gynæcology, ophthalmology, psychiatry, neurology, laryngology, together with military and sanitary affairs. The secretary of the exhibition is Dr. Lassar, 19 Karlstrasse, Berlin.

SEATS FOR THE STORE-GIRLS.—It is stated that the Board of Health of Chicago has brought a suit against a dry goods firm in that city, for not providing seats for their women clerks.

THE FIFTY-FOURTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION will be held at Brighton on August 10, 11, 12, and 13, 1886, under the presidency of W. T. Edwards, M.D., F.R.C.S. An address in Medicine will be delivered by Surgeon John S. Billings, M.D., U.S.A. An address in Surgery will be delivered by Frederick Abell Humphry, F.R.C.S. An address in Public Medicine will be given by E. D. Mapother, M.D. The scientific business of the meeting will be conducted in nine sections.

AN INDUSTRIOUS PHYSICIAN.—Professor Balthazar Luchsinger, of Zürich (formely of Berne), who died suddenly, in his thirty-seventh year, in Meran, on January 20, 1886, has left seventy-one original experimental works on physiological, pharmacological, and toxicological subjects; moreover, ten inaugural works were made under his guidance in Berne.

DR. EDWIN J. BARTLETT, OF DARTMOUTH COLLEGE, AND DR. WILLIAM G. THOMPSON, of this city, are to lecture on physiology at the University Medical College during the coming session.

THE LATE PROFESSOR VON GUDDEN was sixty-eight years of age. He left eight children. It is stated that he had nearly one hundred brains, showing various atrophies, which he was intending to study.

SUCCESSFUL CHOLECYSTECTOMY.—Dr. E. Koehl, of Zürich, describes (in the *Correspondenzbl. für Schw. Aertze*, No. 8, 1886, p. 193) antiseptic cholecystectomy performed by Professor Kroenlein, for dropsy of the gall-bladder, in a woman aged thirty-four. The patient was up and about by the end of the third week, and left the hospital on the forty-first day. When seen five weeks later, she weighed five and a half kilogrammes more than before the operation. It is the eleventh cholecystectomy in literature, according to a correspondent of the *British Medical Journal* (the other ten cases were published by Langenbeck, Heyernam, Reidet, and Courvoisier).

CAN METAPHYSICIANS PRACTISE MEDICINE?—A question is now agitating Chicago medical circles, says *The Sanitary News*, involving the right of metaphysicians to treat disease without submitting to the examination required by the State Board of Health, and possessing the diploma of some reputable medical college. It is needless to state that, were these requirements inflexibly enforced, metaphysicians would be unable to treat patients legally. Dr. John H. Rauch, Secretary of the State Board of Health, thinks the law does not apply to that class of doctors, as they do not treat with medicine and are not, therefore, medical practitioners under the State law. The question will be decided by the State Board of Health at its next meeting.

THE BOYDSTON MEDICAL PRIZE has this year gone to an American, Dr. Charles F. Withington, of Boston, for an essay entitled: "The Relation of Hospitals to Medical Education."

A HOMŒOPATH INVITED TO ST. LOUIS.—It appears that the members of the Medical Press and Library Association of St. Louis conceived and carried out the wicked idea of inviting to the medical editors' banquet the editor of the *N. E. Medical Gazette*, "a monthly journal of homœopathic medicine."

Reports of Societies.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 7, 1886.

SAMUEL SEXTON, M.D., CHAIRMAN, *pro tem.*

IN the absence of the author, Dr. R. F. Weir, the paper of the evening (see p. 725), entitled

FATTY AND SARCOMATOUS TUMORS OF THE KNEE-JOINT,

was read by the Secretary, Dr. C. L. Dana.

DR. H. F. WALKER thought that in considering the question of the origin of such tumors it was worth while to mention the fact that the patient whose history Dr. Weir had related, and who had been under Dr. Walker's care at different times, had had the lesions of primary and secondary syphilis, but he had never shown any tertiary manifestations of the disease.

SARCOMA OF THE CEREBELLUM IN THE CHILD OF A SARCOMATOUS MOTHER—CEREBRAL LOCALIZATION—THE SIGNIFICANCE OF THE CHOKED DISK.

DR. GEORGE L. PEABODY presented a specimen of sarcoma of the cerebellum, with a detailed history of the same (see p. 727).

DR. DANA inquired whether any symptoms were produced by the tumor which would throw any light upon localization.

DR. PEABODY replied that pressure upon the corpora quadrigemina and upon the aqueduct of Sylvius, destroying the centre for the third cerebral nerve, would account for the ptosis. It was not evident that any ataxic symptoms were present. When in the hospital the boy was bedridden; there was progressive muscular weakness, but the patient was able to make movements and to resent interference. The mother's account of the case prior to admission to the hospital was not very satisfactory; the boy, she said, had been perfectly well two weeks previously.

DR. AMIDON first saw the patient with him, and they both thought he had tubercular meningitis, but as the case progressed without fever they abandoned this diagnosis. He agreed with Dr. Dana, who remarked that it was singular there was no loss of vision.

DR. ROBINSON asked the gentlemen present whether they had found examination of the fundus of the eye a very important means of diagnosticating brain-tumors. He believed it had been settled by the oculists that it was not.

DR. PEABODY said that in his experience there was usually the so-called choked disk, but not always. In the present case there was none; the fundus of the eye was normal. He was of the impression that the oculists attached greater value to an examination of the fundus of the eye than did general practitioners.

DR. DANA asked what was the origin of the tumor.

DR. PEABODY thought it probable the tumor began near its present centre, in the white matter of the cerebellum, and grew in all directions.

TREPHINING UNDER COCAINE.

DR. C. L. DANA related the following case, the hospital notes having been taken by his house physician, Dr. J. M. Kingman: William H——, single, aged thirty-eight, born in Ireland, a bricklayer, was admitted to the hospital, February 17, 1886. Examination, February 19th: The patient said that his father had had fits. The patient himself had a fit about ten years ago; he fell backward and was unconscious for about twenty minutes. Otherwise he had been a well man until eight months ago. He was then hit on the back of the head by a bar, and remained unconscious for some hours. A day or so later he began to notice difficulty with his speech—a halting and stammering. He also began to notice loss of power in his legs and arms, which has remained about the same. His appetite has remained good; he sleeps well; he has no trouble with micturition or defecation.

Since the receipt of the blow he has had several fits, says he felt dizzy, and had trouble with breathing just before the fits came on. The fits lasted from ten to twenty minutes. He would fall forward and his head would be drawn to one side. The fits recurred once or twice a week. The last one took place four days before admission.

Examination shows left hemiplegia with some atrophy and contractures, the left patella and other tendon reflexes exaggerated. As to skin reflexes—the right cremasteric reflex was exaggerated; left cremasteric reflex abolished; both plantar reflexes good; slight abdominal reflexes on both sides. Sensation for touch and pain good. Left leg and arms somewhat diminished in size. Can move left arm and leg, but cannot walk without support. Arm and leg about equally affected. Face but slightly affected. The patient has considerable halting and lisping in his speech. The mind is weak, memory poor; he cries easily.

On the left side of the head is a deep scar and depression. It is about an inch and a half long, and lies over the left half of the occipital bone.

The urine is pale yellow, alkaline; specific gravity, 1.010; no albumen; clear, with occasional casts; no sediment.

Dr. Dana decided to trephine the patient. The operation was performed by his late house physician, Dr. Symonds. The patient was a rather weak man, and as Dr. Dana had several times seen epileptic patients get an attack under the influence of ether, he thought it proper to try cocaine instead of ether as an anæsthetic in this case. The head was shaved, and about fifteen minims of a four-per-cent. solution of cocaine was injected into the skin in the region of the scar which had been left by the blow.

The injection was made deeply, so as to reach the periosteum. Subsequently other injections were made as needed. After the periosteum had been raised and the trephine applied to the bone, no more cocaine was used, as no pain was complained of. About one drachm of the four-per-cent. solution was employed during the whole operation, which lasted an hour and a half, including the final dressings. At first he employed an incarcerating coil of tubes, applied by the aid of an Esmarch bandage in the way described by Dr. J. W. Wright, but the bandage was so uncomfortable, and finally painful, to the patient, that it had to be removed, and the major part of the operation was performed without any incarcerating coil whatever. The operation, for several reasons, was somewhat prolonged, but the patient endured it without complaint, sitting in a chair with his head resting on his arm on a table in front of him. The incision was made over the occipital bone on the left side, near the junction of the temporal bone, and three inches to the left of the occipital protuberance. A depressed fracture, linear, and over an inch long, was found. The anterior portion showed some loss of bone-substance, which was replaced by fibrous tissue.

A large button of bone was removed, which showed some depression of the internal table. Pieces of bone were also removed with the forceps.

The exposed dura mater did not appear to be sensitive.

After the operation the patient had one fit the next morning and two others a month later. Since then he had remained free from attacks, though taking the same dose of bromide as before (gr. xlv. daily). His mind was much clearer, his speech greatly improved, and he was able to walk alone, when before the attack he could not walk at all, except with the support of attendants.

The speaker said that one interesting feature in the case was the fact that the hemiplegia was on the same side as the injury (the left). It must have been caused, therefore, indirectly by a meningeal hemorrhage, at a point almost diametrically opposite to the point of fracture. A careful examination of the topography of the skull showed that the motor convolutions were in fact directly opposite the depressed fracture. It would, perhaps, have been a rational procedure to have trephined over these convolutions, but the speaker had preferred to attack the visible lesion first.

Dr. Dana spoke of the various methods of mapping out the convolutions on the living head devised by Féré, Championnère, Giacomini, and Reid. They all gave somewhat different results. That of Féré was the one ordinarily used, while that of Reid was the most complete.

Dr. Dana had found in a number of measurements that in American adults the distance from the root of the nose to the coronal suture was 130 to 140 mm. (In an epileptic it was only 120.)

The distance from coronal suture posteriorly, to upper end of fissure of Rolando, was 45 mm. (Féré), 48 mm. (Scwalbe), 53 mm. (Championnère). The distance ordinarily from the root of the nose to the upper end of the fissure of Rolando, therefore, was from seven to seven and three-fourths inches. The fissure passes down and forward from this point to meet a vertical line starting in front of the external auditory meatus, with which line it makes an angle of 30° to 35°.

Dr. Dana showed an instrument cut out of lead, which could be applied to the cranium, and by proper adjustment could be made to show the location of the principal fissures and convolutions. All measurements in the living subject for determining the location of underlying convolutions were only approximate however, and the apparatus exhibited was mainly for assistance in class demonstration.

Dr. Ball asked whether cocaine was employed during the last stage of the operation.

Dr. Dana replied that it was not found necessary after the periosteum had been cut through. They were able to scrape the bone and to rub the dura mater (usually thought to be quite sensitive) without apparently causing the patient any pain.

Dr. J. B. Hunter asked whether there were any definite objections to giving ether, as a rule, to patients subject to epilepsy.

Dr. Dana could reply only by saying that he knew of three instances in which ether had brought on the condition of status epilepticus; two were cases in which he administered the anæsthetic himself. The patients, it was true, came out all right; at the same time he had recently seen a patient die in status epilepticus.

Dr. Hunter had asked the question because he once gave ether to an epileptic patient who became profoundly comatose, and remained so eight or nine hours, notwithstanding efforts to arouse her by artificial respiration, galvanism, etc. While in this state her color was blue.

Dr. R. W. Amidon remarked with regard to cerebral topography that he would be glad if some one would contrive a better method than those now employed for mapping out the convolutions. Those now in use could be readily applied to the denuded skull, but not during life.

The only objection to fixed measurements, like those suggested by Dr. Dana, was the very variable conformation of different heads and consequent variable position of subjacent convolutions. But in ordinary explorations of the head exactness was not demanded, and present methods might answer. He thought it would be worth while for some ambitious young American to repeat and confirm the correctness of Féré's mapping of the convolutions.

The Society adjourned.

OHIO STATE MEDICAL SOCIETY.

Forty-first Annual Session, held at Akron, O., June 2, 3, and 4. 1886.

Wednesday, June 2d—First Day—Afternoon Session.

The President, Dr. William Morrow Beach, of London, called the meeting to order promptly at the appointed hour. Prayer was offered by Rev. R. L. Ganter, and addresses of welcome were made by the Mayor, Hon. L. D. Watters, and Dr. R. E. W. Howard. A fair number of delegates were present at the opening.

The Secretary reported 41 new members, 11 deaths, and 40 forfeitures, making the membership 557, of whom 11 were non-residents. The death-roll was then read, numbering some of the best men of the Society. Suitable notice was made of their decease. Three new societies were reported as applying for the privilege of auxiliaries. Bills amounting to $673.10 were reported.

Vacancies in committees were filled. Reports were made from the Committee on Publication and from delegates to other societies.

Mrs. F. W. Leiter, of Mansfield, made a

temperance speech,

which was well received. A member made a disrespectful reply, which was not well received. Mrs. Leiter is President of the Society for Scientific Temperance Instruction.

miscellaneous business.

A telegram from the Medical Society of Ontario, Canada, was properly responded to.

Dr. H. Z. Gill, of Cleveland, made a verbal report of a "Case of Posterior Torticollis, with Treatment."

Dr. A. Hurd, of Findlay, read a paper on "The Close Relation and Probable Identity between Scarlatina and Diphtheria," which was discussed by Drs. S. B. Hiner, W. J. Scott, James Bennett, L. S. Scovill, H. Z. Gill, W. H. Harmon, and E. Williams.

Dr. N. P. Dandridge, of Cincinnati, read a paper on "The Present Aspect of the Treatment of Vesical Calculus." Discussed by Drs. S. F. Forbes, F. W. Hamilton, and E. W. Russell.

Dr. H. Z. Gill, Chairman of the

committee on the collective investigation of disease,

made the report. He introduced a number of carefully prepared charts showing the relation between the temperature and death-rates, referring especially to Cleveland. During the year there were 518 deaths among children from cholera infantum; 418 occurred during July, August, and September; 375 of them during the two former months; 16 deaths are recorded July 31st; of these 13 were from cholera infantum. The relationship between scarlet fever and diphtheria, as shown by the chart, he thought rather more than accidental. The subject of typhoid fever was also discussed. Ill ventilation, crowding as in sleeping-rooms, school-rooms, etc., he considered great evils. Ventilation dilutes until it destroys; dilution attenuates until it renders innocuous. The reports of Drs. Starling Loveing and C. O. Probst, members of the Committee, were also submitted.

Adjourned for dinner.

Thursday, June 3d—Second Day—Morning Session.

The Committee on Admissions reported a large number of new members. The Committee on a State Board of Examiners Bill reported and were continued. The Committee on Finance reported $340.01 in the treasury. The druggists in session at Springfield were thanked for a kind remembrance by telegraph.

Dr. F. D. Bain, of Kenton, read a paper on

SOME PRACTICAL OBSERVATIONS IN OBSTETRICS.

Discussed by Drs. Merriman, Herrick, Hiner, and A. Dunlap.

Dr. Dudley P. Allen, of Cleveland, reported

A SELECTED CASE OF OVARIOTOMY,

and showed specimens.

Dr. W. B. Hamilton, of Columbus, read a paper on a similar subject.

Dr. B. M. Ricketts read a paper on

EPITHELIOMA, ITS ETIOLOGY, DIAGNOSIS, AND TREATMENT

He opened with a reference to the extreme amount of suffering entailed upon the subject of cancer. He thought the authorities prone to elaborate and mystify rather than to simplify their thoughts. Owing to the voluminous character of their productions they are to the general practitioner inaccessible. Bichat, Mueller, and Rokitansky first discovered the histological tissue-development. According to Parker, $\frac{1}{10}$th of the deaths of the world are from this disease. On the Nile, among the American Indians, Hindoos, Egyptians, and native negro population of Africa it is absent. It is found most common on the water-courses of England and Wales. Epithelioma is the only form of cancer the origin of which has been satisfactorily associated with previous local disease—constant irritation being the most common cause. It was not till 1840 that Rokitansky placed our knowledge of this disease on a high footing, and epithelioma was known to be a distinct form. It is claimed that the upper lip has an immunity against this disease, but two cases have been reported by Hebra. The average time required to destroy life is fifty-three months, longer than any other form of cancer. The author gave a number of tables going to show that this variety comprises one-fourth of the cases of cancer, that it occurs oftener in men than in women, and that it is found oftenest in the face. The classification of the epithelioma was then discussed. First, the superficial or flat, with which some think the rodent ulcer to be identical, then the deep-seated, then the papillomatous or warty cancer, the most common of them all.

The diseases liable to be confounded with epithelioma are, lupus, syphilis, and rhino-scleroma, from which differential diagnosis is comparatively easy.

Treatment should be both local and constitutional. There is no question but that either form of the disease should be removed as early as diagnosed. The only difference is how to remove it. The superficial is the most easily cured, and is thought by some to be the only one in which caustics should be used. Mr. Erichsen firmly believes that excision with the knife cures. Caustics, though brought into disrepute by charlatans, are undoubtedly of use, The essayist next discussed the actual cautery, the black paste, made of sulphuric acid and saffron, the chloride of zinc paste, caustic arrows, Fells' paste, arsenious acid, Mance's ointment of pyrogallic acid, acetic acid, electrolysis. Escharotics, he said should not be used unless there was a considerable amount of tissue underneath. Cauterants should be followed by warm poultices and carbolized oil dressing. He further discussed repair of the lost parts by flap operations, skin- and sponge-grafting. He recommended highly the local or subcutaneous use of cocaine to relieve pain, spoke of local anæsthesia from salt and ice, but feared sloughing as a result. He recommended, in closing, special attention to the general condition of the patient.

Discussed by Drs. Sisler, Merriman, R. H. Reed, J. T. Whittaker, and William Corlett.

Afternoon Session.

Dr. C. A. L. Reed, of Hamilton, read a paper on

SOME CASES OF ABDOMINAL SECTION.

Three papers having been read on this subject now, it was taken up and a very lively discussion followed. This was taken part in by Drs. A. Dunlap, of Springfield, W. B. Hamilton, of Columbus, and H. J. Herrick, of Cleveland.

THE ELECTION OF OFFICERS

being called for, resulted as follows:

President—Thomas MacEbright, of Akron.
First Vice-President—J. M. Weaver, of Dayton.
Second Vice-President—W. S. Battles, of Shreve.
Third Vice-President—X. C. Scott, of Cleveland.
Fourth Vice-President—Jesse Snodgrass, of Kenton.
Secretary—G. A. Collamore, of Toledo.
Assistant-Secretary—E. C. Brush, of Zanesville.
Treasurer—T. W. Jones, of Columbus.

It was decided to hold the next meeting of the Society in Toledo.

The President, having forgotten his manuscript, did not deliver an address, but read a number of letters from those who could not attend, from home and abroad.

Dr. E. Williams, of Cincinnati, read one of his characteristic humorous papers, full of wit and good hits at quacks and quackery. His subject was "Ocular Delusions." It was greeted with laughter and applause.

Dr. A. B. Threasher, of Cincinnati, read a paper on

HYPERTROPHIC NASAL CATARRH,

in which he thought the disease, as a rule, due to a strumous diathesis in addition to the common irritative causes of chronic nasal catarrh.

There was only difficulty in diagnosis when the hypertrophic tissue has a tendency to become pedunculated, when it may simulate, or really become a true polyp.

The prognosis is wholly governed by the treatment, and is bad if no treatment is instituted. This should be two-fold: constitutional and local. The former should be both hygienic and medicinal, subject to the peculiarities of the case. The local treatment should be the radical removal of the thickened tissue. This should be done, as a rule, by the galvano-cautery.

Friday, June 4th—Third Day—Morning Session.

Dr. R. Harvey Reed, of Mansfield, read a paper—subject,

THE IMPORTANCE OF EARLY OPERATIONS IN SURGICAL INJURIES.

He did not mean rash carelessness, but the sooner a man's limb is off after operation is determined upon the better.

Dr. Dunlap, of Springfield, had been in the habit of operating immediately. He fully endorsed the paper. The A. C. E. was his favorite anæsthetic.

Dr. J. M. Weaver, of Dayton, thought the question when to operate a serious one. It should have our best judgment. The true ground he believed to be the middle, as is the case usually where there are two extremes presented. He doubted if it was good surgery to make the immediate operation when you have a severe accident, as in railroad injury. You had better not operate if there is danger of the patient dying on the table. You had better wait. May be that feeble, flickering life might revive, if not subject just then to another shock.

Dr. E. H. Hyatt, of Delaware, begged leave to take exception to the statement in the paper that the day had gone by when authors advised waiting for reaction. He thought every case to be a rule unto itself. After shock we have a weak heart. Then, will you put a knife to that patient, and add shock to shock? You should know the degree of the shock before operating. If it is not intense, if the patient is suffering from hemorrhage, then operate. What danger is there in waiting if the patient is not bleeding? He favored the use of ether. It is a stimulant, and not so dangerous to the heart. He would not use chloroform, hence not A. C. E., for it contains chloroform. Would not give alcohol. Artificial heat is the best treatment. He wished to enter his pro-

test against the sweeping recommendation, to operate in every case, no matter what the condition of the patient.

Dr. H. Z. Gill, of Cleveland, understood the rule to be, early operation when the case will admit. He thought this settled.

Dr. T. G. Scott, of Cleveland, favored giving Bourbon whiskey.

Dr. R. B. Hall, of Chillicothe, thought the degree of shock should determine whether the operation should proceed or not. He favored dry heat and whiskey.

Dr. N. Gay, of Columbus, thought that ether could be used to diagnose shock. If the patient went down under ether, he should not be operated upon.

Dr. J. W. Hamilton, of Columbus, favored the primary operation below the knee- and shoulder-joint. Above these points, wait. He thought it reasonable to suppose that ether might stimulate reaction, and chloroform retard.

Dr. J. Harmon, of Warren, thought that chloroform as well as ether has a stimulating effect. The apparent depressant effect with chloroform is due to the more rapid anæsthesia. If you push ether to the same anæsthetic effect you will have the same depression. Chloroform as given in obstetrics stimulates.

Dr. N. Gay, of Columbus, read a paper on

THE TREATMENT OF MALIGNANT CARBUNCLE.

He gave the history, treatment, and results, in two cases. Favorite treatment, carbolic acid and olive oil in equal parts.

Dr. Hamilton, of Columbus, thought carbolic acid a two-edged sword. He reported a case where a woman with a felon had applied carbolic acid externally. The finger died and had to be amputated.

Dr. Weaver, of Dayton, reported a case where a young woman came to him with her finger perfectly dead, caused by an application of carbolic acid. It had been applied accidentally and immediately wiped off. Gangrene set in in two or three days.

Dr. Underwood reported the case of a girl, aged ten, who burnt her finger. Her mother having heard that carbolic acid was good for burns, applied it. The finger remained wrapped up till morning when it was found dead; the doctor called, and the finger was amputated.

A lengthy experience-meeting followed, carbolic acid being the subject, drifting into its use for hæmorrhoids.

Dr. J. F. Whittaker, of Cincinnati, read a paper on

THE CARDIAC COMPLICATION OF BRIGHT'S DISEASE.

The essayist commenced by comparing the relation of the heart and kidneys in the machinery of man to that of a force or feeding-pump, and the escape or waste water-pipe. Disease of one was therefore followed sooner or later by disease of the other. In this relation the disease might begin first in the heart and be followed by acute or chronic nephritis; secondly, in both heart and kidneys simultaneously, under the operation of the same cause, as in alcoholism, syphilis, gout, arterio-capillary sclerosis, etc.; and, lastly, in the kidneys, to be followed by pericarditis, much more rarely by endocarditis, but always by hypertrophy of the left ventricle. This hypertrophy, which we now know to be compensatory, hence to be forced and sustained in every way, accompanies every case of chronic nephritis, except in a few cases of extreme debility where new tissue cannot be supplied. It is not limited to renal cirrhosis, but is found equally in chronic parenchymatous nephritis; in fact there is no chronic nephritis without it. It is a valuable sign in that it shows itself early, in the course of from two to four weeks after the reception of the disease in the kidneys, at which time it may be detected chemically as well as demonstrated upon autopsy. The various causes assigned for its production were next discussed, and the symptoms—increased tension of the pulse, dislocation of the apex to the left increased dulness, and accentuation of the aortic tone were dwelt upon in its recognition. The symptoms ar, all the more valuable in that they may all exist in a marked degree in the entire absence of subjective signs on the part of the heart. In the absence of a valve-lesion to account for them they excite the suspicion of the practitioner at once as to the existence of Bright's disease. So long as this compensation is exact there is no dropsy and mostly no uræmia, but so soon as it becomes disturbed with an excess or failure, gross symptoms supervene. Failure is eventually inevitable. It shows itself in the pulse, which becomes weak and quick; next in the lungs with signs of dyspnœa, bronchitis, asthma, and œdema; lastly, in the general system, with anasarca and hydrops of the serous sacs. The paper concluded with the treatment of dilated heart, and urged the importance of gauging the stage of Bright's disease by the condition of the heart.

Dr. H. G. Sharpe, of London, discussed the action of the over-active heart upon the excretions of the kidneys. He thought in weakened heart-action we might have albumen in the urine without kidney trouble.

Dr. William B. Davis, of Cincinnati, reported a case of intermittent albuminuria in an applicant for life insurance.

Dr. Whittaker, in closing, thought albumen in the urine always denotes disease of the kidneys. He thought Dr. Davis' case might be due to malaria.

Dr. Wm. B. Davis, of Cincinnati, read a paper entitled

THE ALCOHOL QUESTION.

He referred to the interests, moral, physical, and temporal, which the question involved. He discussed the physiological action of alcohol in the body. He considered it an antipyretic unless, may be, in the first stage, when the blood is driven to the surface. He thought alcohol was a food. Sulphur is also a fuel. We would hardly use it to heat a room. Alcohol can be used as a food advantageously in fevers and some other diseases, but should not be used in health. He then reviewed the immensity of the subject in this country and in England.

Dr. McIntyre, of Delaware, thought alcohol always deleterious, never beneficial. It is not a stimulant, it is an irritant and a depressor, a narcotic and a poison.

Dr. E. H. Hyatt, of Delaware, discussed alcohol as a food. He was not settled as yet in his belief. One thing controverting this idea is that the power of endurance is not increased.

Dr. W. C. Jacobs read a paper on

PHOSPHOR-NECROSIS.

One of the largest match factories in the United States is in Akron, and consequently the opportunity of observing this disease is quite frequent. He described the process of match-making in detail. About one-seventieth grain of phosphorus is contained in each match-head. In the dipping- and packing-rooms is where the danger of phosphor-necrosis is greatest. Here they are handled more, and in damp weather fumes are given off. The effects of phosphorus are local. In my ten cases all started from unsound teeth. Gums kept from the teeth by tartar is also a cause. It is generally thought that the patient must have been exposed for a long time to the fumes of the phosphorus. Essayist knew one girl who was exposed only two years. The physician rarely sees it in the initial stage. Generally the patient comes a few days after having a painful carious tooth extracted. He wishes to know why he still has pain.

Treatment: Tincture of myrrh is good. Deep incisions have not been so successful in the essayist's hands. He is a firm believer in the early operation. Prevention: First, allow none to work in the dipping and packing department who have not sound teeth; second, good ventilation; third, operators not allowed to eat dinner in their work-rooms, and compelled to keep their hands clean; fourth, keep a solution of the alkaline carbonates near as a mouth-wash.

Dr. F. Garrison, of Mount Vernon, showed a dicephalous monster.

Dr. Sherry, of Tippecanoe, exhibited a case of mastoid trouble, with vomiting and brain symptoms.

Dr. H. J. Herrick, of Cleveland, taking as his subject

DIETETICS IN IDIOPATHIC FEVERS,

presented points which he thought to have been neglected in the treatment of fevers. He referred to dietetics. Too much food is often given. Food not assimilated is a veritable poison. It is my custom to prescribe definitely the food and drink my patients receive. I can bring on malarial fever by means of food. He discussed dietetics with typhoid and bilious fever. Milk, he thought, was sometimes prescribed too freely by physicians in typhoid fever. Give more good pure water.

Dr. J. W. Shively, of Kent, read a paper on

THE EFFECTS OF FOOD IN HEALTH AND DISEASE.

He referred to what food had accomplished in the Colorado beetle by increasing its numbers so greatly. Also how fleet it had made the race-horse, how it had elongated the intestine in the domesticated pig over the wild boar. He discussed food and diet in the treatment of dyspepsia, diarrhœa, scurvy, torpidity of the liver and corpulency. The value of food and diet have been known for a long time. They have not been spoken of highly enough. The value of drugs has been overestimated. We lack the moral courage to say: "You need no drugs, go and do so and so and be whole." We pander to the desire for drugs. We are afraid to give our advice and charge for it, but must give some miserable drugs. The doctor with his drug-store attachment is the most popular.

Dr. William T. Corlett, of Cleveland, read a paper on

DISEASES OF THE SKIN OCCURRING IN THE SUBJECTS OF GOUT.—A REPORT OF THREE CASES.

Case I.—Aged sixty-two, Irish, immediate ancestors free from gout, rheumatism, or any protracted illness. A brother died with symptoms similar to those of this patient. Up till the time of the menopause she enjoyed good health. At this time she suffered from an inflammation of the small joints. At fifty-five an eruption broke out on the legs and finally resulted in two ulcers. The forearms and legs on admission were covered with an eruption of a dark reddish color, slightly scaly, moist only when scratched; itching moderate; joints of foot anchylosed; those of the hand markedly stiffened and enlarged; urine acid at time of passing, specific gravity 1.028, slightly albuminous; serum from a blister treated with acetic acid showed uric acid crystals. Beer and ale disagreed with her since coming to this country, and had been discontinued.

Treatment: Wine colchicum, 10 minims, liq. pot., 10 minims, and inf. gentian, 20 minims, after each meal; ulcers diminished one-half; is now free from eruption.

Case II.—Aged twenty-one, single, daughter of preceding patient. Good health until eighteen, when an eruption appeared on her forearm and legs; very itchy and moist; disappeared and recurred several times. Suffered from muscular rheumatism. She had an eruption which seemed a hybrid between psoriasis and eczema; urine acid at different times, specific gravity 1.018; contained urates, uric acid, and oxalate of lime; saliva acid; serum from blister with acetic acid gave negative results; constipated. She was given blue mass, four grains, and Rochelle salts in hot water before breakfast; tar ointment locally. Recovery rapid.

Case III.—Aged fifty-five, married, Englishman; was a sailor, but obliged to quit on account of scurvy. Then turned painter, and suffered several times from lead-colic. At the age of thirty-three, he had a scaly itching eruption, sudden in appearance, which covered the whole body and disappeared soon, but returned with great frequency; complained of general debility and sciatic pains. The epidermis came off in large flakes the size of the palm, the underlying skin being moist; appearance that of advanced senility; anæmic, with marked arcus senilis; muscular tremors and an atheromatous condition of the arteries; urine scanty, twelve ounces per diem, high color, acid in reaction; specific gravity 1.030; albumen, urates, oxalate of lime and granular casts were present; given milk, stale bread and green vegetables *ad libitum*, fresh mutton and beef twice a day with lemon-juice in lieu of coffee or tea, also alkalies, vegetable bitters and Rochelle salts; locally, alkaline baths, followed with tar ointment. Is improving.

Of the lithæmic eruptions which came under the essayist's notice the following are the most noteworthy features: 1, They were scaly; 2, the color was reddish and generally syphilide; 3, there was a tendency to a symmetrical distribution; 4, they were met with in adults, usually after forty-five, except when inherited; 5, they were accompanied by other evidences of lithæmia; 6, they were prone to return. As to diet, cases differ. Some require more than usual, others must be restricted to lenten simplicity. Generally to be interdicted are: Strawberries, rhubarb, apples, pickles, sugar, and acids except in moderation. Eggs, lobsters, and fats are generally badly borne. Malt liquors, port wine, and champagne should be especially prohibited, and the free use of water should be encouraged. Diet, fresh air and exercise. The alkalies, colchicum and the mineral acids are recommended. Rochelle salts, Carlsbad salts or the mineral waters are required at times; again the lithic salts act best, especially if the eruption is accompanied by muscular rheumatism. From colchicum he had derived but little benefit. Local treatment was of little importance, except to mitigate the suffering. The alkaline baths, preparations of tar and ammoniated mercury comprise the means most in vogue and best suited to this end.

Dr. A. W. Ridenour, of Massilon, read a dicephalic paper. First subject: Report on Trephining the Spine; second, The Radical Cure for Hernia. This, in the words of the author, was more of an experience paper than an elaborate scientific affair.

Dr. E. S. McKee, of Cincinnati, read a paper entitled

CONSANGUINITY IN MARRIAGE.

The tenor of the paper was that consanguineous marriages, other things being equal, have no ill effect upon the offspring.

Dr. L. Slusser, of Canton, read a paper on

THE RELATION OF THE PHYSICIAN TO THE PUBLIC.

He did not see why a physician was not as fit for public office as any other class or calling. He referred to the prominence medical men took in the boards of this State during and previous to the time of Governor Chase. Now they are almost entirely absent from these boards. He thought we had disfranchised ourselves by persistently refusing office. The doctor should have a careful watch over the public health. He should constitute himself sanitary inspector of his patient's surroundings. In China, the less sickness there is in a certain district the more pay the doctors of that district receive. He referred to the State Board of Health. It is not all we could wish, yet it is an entering wedge and we should support the board.

Dr. H. Z. Gill presented a resolution of encouragement to the State Board of Health, which was adopted.

Dr. Wm. B. Davis, of Cincinnati, offered amendments to the constitution to the effect that the officers be elected by a committee of one from each county represented, and that the meeting be divided up into sections of medicine and surgery.

The register showed 107 names against 109 last year.

Adjourned to meet at Toledo the third Wednesday in June, 1886.

To the true chronicler of news there remains one fact to relate. Entertainment was absent. The Committee of Arrangements, it seems, had done absolutely nothing. True it is that on this very account one night-session, a very profitable one, was held, the programme cleared, and two volunteer papers read. Nevertheless, to one who had just come from the hospitality of St. Louis, and had, on somewhat similar occasions, been dined and wined at New Orleans and London, there was a want well felt. Akron is not small, and its wealth is great. There exists, apparently, no excuse. This occurred once before in Cleveland, due to a factional quarrel.

Correspondence.

ELECTRICITY IN THE TREATMENT OF EXTRA-UTERINE PREGNANCY.

To the Editor of The Medical Record.

SIR: In his article in THE MEDICAL RECORD of June 12th, Dr. C. C. Lee refers to the use of electricity in extra-uterine pregnancy, and states that it has been popularized chiefly by the writings of Thomas and Garrigues. As no mention of my efforts in this direction was made by Dr. Lee (simply an oversight on his part, I doubt not), it may not be improper for me to say that I have successfully treated eleven well-authenticated cases of this character—an individual experience perhaps unparalleled.

In THE MEDICAL RECORD of February 17, 1883, many of these cases will be found reported, and both in that article, and in the third and fourth edition of "Beard and Rockwell's Medical and Surgical Electricity," I have described more fully than can be found elsewhere the simple details of the operation. One of the unpublished cases I saw very recently in consultation with Drs. Goelet and Lee. It will probably be reported by Dr. Goelet. The twelfth and last case, one of unusual interest and specially instructive, I treated during the past week for Dr. J. E. Janvrin. The full details of the case will soon be given by him. Notwithstanding the number of times that this important therapeutic procedure has been brought to the attention of the profession, the fact still remains that many have incorrect knowledge as to the proper method to be employed; while not a few, strange as it may appear, remain in ignorance even to this day of the fact that in electricity we have a sure and speedy remedy for tubal pregnancy, if detected before the third or fourth month. As a striking illustration of the first statement, reference is made to a series of articles on Electro-Therapeutics, recently published in one of our medical journals, where it was gravely stated, that for the relief of extra-uterine pregnancy a needle is introduced into the sac and electrolysis performed. Comment is unnecessary. The beauty of the operation is its simplicity. No needles are used, the fœtal life being destroyed without danger or special pain to the mother.

A. D. ROCKWELL, M.D.

THE INDISCRIMINATE USE OF ATROPINE.

To the Editor of The Medical Record.

SIR: Your issue of May 29th contains, under "Medical Items," a paragraph referring to a condemnation of the indiscriminate use of atropine for the purpose of dilating the pupil, as an aid to examination, by Dr. Barraquer, in the *Boletin de la Clinica Oftalmologica*. The justice of this reflection upon the frequent use of atropine for this purpose cannot be disputed.

Leaving out of consideration the cases in which atropine is positively harmful, the inconvenience resulting from paralysis of accommodation which atropine induces is often a matter of importance, as in the case of business men and others, who are compelled to distinguish near objects in the discharge of their daily duties.

Were the drug used to paralyze accommodation and thus to aid in determining errors of refraction, such inconvenience would be of secondary consideration; but we find this mydriatic used very frequently, merely to dilate the pupil, for making easy an ophthalmoscopic examination—an aid which the general practitioner makes use of more frequently probably than the ophthalmologist, for the latter's constant practice enables him, in most cases, to explore the fundus oculi through the undilated pupil.

In these cases mydriasis should be produced by *cocaine;* one or two drops of a four-per-cent. solution will dilate the pupil as rapidly as will atropine, the effects will last long enough for even a lengthy ophthalmoscopic examination, accommodation is not as seriously embarrassed, the effects pass off very speedily, and thus there is practically no inconvenience to the patient. Ever since the introduction of cocaine, I have employed it in those cases in which dilatation of the pupil was necessary for ophthalmoscopic examination, and a paralysis of accommodation was not required.

Simple as the substance of the above lines may be, I am led to write them, since, as far as I have observed, the use of cocaine as a mydriatic is still very limited, while it deserves a much more extensive employment for this purpose.

Very truly yours,

CHARLES H. MAY, M.D.

202 East Fifty-eighth Street, New York.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 6 to June 19, 1886.

FRYER, BLENCOWE E., Major and Surgeon. Sick leave of absence still further extended six months on surgeon's certificate of disability. S. O. 131, A. G. O., June 7, 1886.

TILTON, HENRY R., Major and Surgeon. Ordered for duty Post Surgeon, Presidio of San Francisco, Cal. S. O. 38, Department of California, June 1, 1886.

WATERS, WILLIAM E., Major and Surgeon. Ordered from Department of the East to Department of Columbia. S. O. 133, A. G. O., June 10, 1886.

MERRILL, JAMES C., Captain and Assistant Surgeon, Ordered from Columbus Barracks, Ohio, to Department of Columbia, to take effect upon the expiration of his present leave of absence. S. O. 133, A. G. O., June 10, 1886.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon. Ordered from Department of Columbia to Department of Texas. S. O. 133, A. G. O., June 10, 1886.

OWEN, WILLIAM O., Jr., First Lieutenant and Assistant Surgeon. Ordered from Department of Columbia to Department of the East. S. O. 133, A. G. O., June 10, 1886.

CARTER, W. F., Captain and Assistant Surgeon. Ordered for duty (temporary) at Fort Concho, Tex. S. O. 55, par. 2, Department of Texas, c. s., granting Assistant Surgeon Carter leave of absence for one month, is revoked. S. O. 64, Department of Texas, June 1, 1886.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Stockton, Tex. S. O. 64, Department of Texas, June 1, 1886.

BILLINGS, J. S., Major and Surgeon. Granted two months' leave of absence, with permission to go beyond sea, to take effect July 9, 1886. S. O. 138, A. G. O., June 16, 1886.

LAUDERDALE, J. V., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon at Fort Concho, Tex. S. O. 70, Department of Texas, June 12, 1886.

COMEGYS, EDWARD T., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon at Madison Barracks, Sackett's Harbor, N. Y. S. O. 60, Division of the Atlantic, June 15, 1886.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered from Fort Stockton, Tex., to Fort Clark, Texas. S. O. 69, Department of Texas, June 11, 1886.

Official List of Changes in the Medical Corps of the United States Navy during the week ending June 19, 1886.

SWAN, R., Passed Assistant Surgeon. Detached from the Brooklyn and wait orders.

LOVERING, P. A., Passed Assistant Surgeon. Detached from Navy Yard, New York, and ordered to the Brooklyn.

ARTHUR, GEORGE, Passed Assistant Surgeon. Ordered to Navy Yard, New York.

RUSH, C. W., Passed Assistant Surgeon. Detached from the Franklin and ordered to the Brooklyn.

HAWKE, J. A., Surgeon. Detached from the Wabash and ordered to the Essex, July 1st.

SMITH, HOWARD, Surgeon. Ordered to the Wabash.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 19, 1886:

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Cases.								
June 19, 1886.....	0	9	36	5	65	71	1	0
Deaths.								
June 19, 1886.....	0	2	7	5	3	31	1	0

THE MORTALITY OF DIPHTHERIA.—Dr. Winslow Anderson, of San Francisco, agrees with Dr. Beach in his criticism of the paper on "Diphtheria and its Treatment," as to the mortality statistics there cited. He writes: "To establish the rate of mortality at forty-two per cent. in this much-dreaded disease is open to many objections. In malignant epidemics and endemics of diphtheria which I observed while a resident in Salt Lake City, as well as those seen in San Francisco, I must say, adopt what plan of treatment you may, exclusively local or constitutional, or both, your mortality will not stop at forty-two or fifty-two per cent., but will reach from seventy-five to ninety per cent. On the other hand very mild cases and epidemics occur in which two to five per cent. will cover the death rate. It is well known that not half the cases are reported to the Health Department, so that the statistics are very uncertain. Granting, however, the correctness of the reported cases, every practitioner knows how many pseudo-diphtheritic cases are included—particularly in the so-called "eclectic" and "homœopathic" practice. I do not decry the local treatment, but, on the contrary, use it whenever it is indicated. But of one thing I am very sure, viz., that to hold a little patient as in the case quoted, where the assistant, nurse and father were required to master the little one while the doctor used his spray, is certainly more likely to kill than to cure.

AN INTERESTING RÉSUMÉ OF THE HISTORY OF OVARIOTOMY is given by Lawson Tait. He writes to the *British Medical Journal*: "I have exhaustively studied the history of this operation since its first successful performance by Robert Houston in 1701. Its history may be divided, roughly speaking, into three phases. The first begins with Ephraim McDowell, and ends with Nathan Smith, about the year 1824; and, during these years, the whole achievements of modern surgery were almost equalled in success, if not in extent. The principle of the intraperitoneal treatment of the pedicle with the short ligature was fully established; and the great regret, in the history of the operation, is that it ever was departed from. The second phase begins with Charles Clay, who first performed ovariotomy in England on September 27, 1842; and, during the succeeding twenty-five years, he performed three hundred and ninety ovariotomies, with a mortality of very nearly twenty-five per cent. This second phase ends with the close of the career of Mr. Baker Brown, in 1867. Dr. Charles Clay, unfortunately, departed from the principles of Nathan Smith, and used long ligatures. Baker Brown, on the other hand, adopted a complete intraperitoneal method; and between May, 1865, and September, 1867, he performed forty consecutive operations upon this principle, with a mortality of only ten per cent. The third phase in the history of ovariotomy begins with Mr. Spencer Wells, who, between 1857 and 1878, performed one thousand ovariotomies, with a mortality of twenty-five per cent.; he having, most unfortunately, like his predecessor, Dr. Clay, departed from the successful method of Nathan Smith. This third phase ends with Dr. Thomas Keith, who again re-established Nathan Smith's principle; and from that, I venture to say, no one will ever again have the hardihood to make a deviation."

LADY DOCTORS IN THE FIFTEENTH CENTURY.—Dr. Horowitz, of Frankfort-on-the-Main, has (*The Jewish Chronicle*, May 14, 1884) published a work, entitled "Jüdische Aerzte in Frankfürt," in which the learned author mentions the interesting fact that, as long as four hundred and fifty years ago, Jewesses practised medicine in that city; they especially devoted themselves to ophthalmia. The female oculist, Dr. Zerlin, whom we meet with in the volume as having practised in the year 1428, ventured to reside outside the Judengasse, and believed that she could claim exemption from the payment of taxes on account of her talent, and the general esteem in which she was held. The municipal council rejected her application, and, in 1489, they ordered that Jewish lady doctors should either quit the city or pay taxes like other Jews. A Jewish doctoress was, however, more fortunate in the year 1494; she was relieved from the payment of "sleeping money," a tax imposed on foreign Jews for every day that they stayed in Frankfort. With this exemption was coupled an official recognition of her profession which was of the utmost advantage to the lady.

A CHINESE THEORY OF RABIES.—Dr. George O. Williams, of Greene, N. Y., writes that the Chinese notion of the etiology and treatment of rabies, as given in "La Matière Médicale chez les Chinois," suggests the method of alleged cure, recently mentioned in these columns, as practised by a peasant in Hungary. He thinks the Chinese method may be a traditional antecedent of the treatment mentioned. The following is the account as given in the work referred to: "The 'mylabris cichorii' (the Chinese blistering fly, allied to the cantharis) is frequently prescribed to act upon the urinary organs, and to produce abortion, but it is more highly esteemed as a remedy for hydrophobia. According to the theory which the Chinese hold of that malady, the bite of a rabid dog determines the impregnation of the individual bitten, and a cure cannot be effected until the expulsion of the product of the impregnation is secured through the urinary organs. The hydrophobia persists as long as the gestation continues. Now, as the administration of the mylabris is followed by strangury and sanguineous urine, they suppose the *canine fœtus* to be expelled along with these symptoms."

A GERMAN OCULIST.—Dr. Duncan writes (in the *Canadian Practitioner*) from Marburg, of Professor Schmidt Rimpler: "His rather tall, well-formed figure, rapid, graceful movements, genial, expressionful eye, with an indescribable air of courage and buoyancy, at once attract and inspire respect. A gentle, quiet manner is almost necessary to success as an oculist, but Schmidt Rimpler has more than that. His thoughtful courtesy toward the poorest and most degraded patient is a lesson to students, teaching them to avoid the harsh, rough, ungentlemanly manner so often assumed by medical men, and reminds one forcibly of the fascinating courtesy toward the lowest of Dr. Gaillard Thomas, of New York, which, as a pattern to the profession, is beyond praise."

WATER IN THE TREATMENT OF OBESITY.—M. Albert Robin, arguing that liquids taken in abundance increase the process of oxidation within the economy, lays down the following indications for a liquid or a dry diet in the treatment of obesity. In the case of fat persons who secrete an abnormally large amount of urea, a dry diet should be enjoined. On the other hand, in the case of those whose secretion of urea is below the normal, an abundance of water and other liquids should be prescribed. Finally, when the excretion of urea is neither increased nor diminished, one must look to the "coefficient of oxidation," that is, the relation existing between urea and the solid matters of the urine, for a guide. When the coefficient of oxidation is high a dry diet is indicated, but when it is lowered, fluids should be taken in large quantities.—*Bulletin Général de Thérapeutique*, April 15, 1886.

THE INFLUENCE OF FOREBODINGS IN DISEASE.—In the *Asclepiad* for January, 1886, Dr. B. W. Richardson writes that there are two kinds of forebodings—the fanciful and the serious. False forebodings are presented by persons of flighty or fanciful natures, who are really fond of contemplating risks, and who suggest anxieties one minute, but laugh at them a few moments afterward. These forebodings have no serious importance. True or serious forebodings emanate from persons who are firm and thoughtful, who, as a rule, keep to themselves what is on their minds until something like a crisis has been reached, when they come to a conclusion to which they adhere and by which they are much influenced. These forebodings in a critical disease are bad: they have a direct effect upon the physical powers, the heart's action is impaired, the digestion becomes affected, and there is a want of tone very much opposed to restorative efforts. It is a wise plan to take as little notice of these forebodings as possible, but to ridicule them is bad.

TARTAR ON THE TEETH.—A correspondent takes umbrage at a paragraph appearing in THE RECORD for April 24th, stating that "some enterprising dentists have named this" (tartar on the teeth) "'Rigg's Disease,' a condition requiring treatment, in place of the old-fashioned scraping off the tartar." Our correspondent thinks this a "slur upon a class of specialists whose work and literature are proof against such defamatory attacks on their own merits. Rigg's disease, or more properly pyorrhœa alveolaris," he says, "is a disease characterized by purulent discharges from the alveolus and occasioning loosening of the teeth and other pathological conditions familiar to dental surgeons. The disease is very common to certain cachexias, notably the scorbutic. Incident to the progress of the disease 'pockets' or recesses are formed between the roots of the teeth and their alveolar investments; in these 'pockets' 'tartar' or 'salivary calculus' *sometimes*, not always, deposits. Tartar *never* is the *only*, seldom an accessory, cause of 'Rigg's disease!'" No surgeon, we believe, could confound suppurative inflammation of the gums with the more familiar accumulations of tartar upon the teeth, but it will scarcely be denied that of the immense number of persons legally entitled to designate themselves "dental surgeon" but few possess the requisite medical knowledge to treat this or any other disease. Our correspondent himself states that the so-called Rigg's disease depends on constitutional causes, notably scurvy, a disease which the "class of specialists" called dentists are by no means generally qualified to treat. THE RECORD has already called attention to the fact that a "specialist" capable of treating diseases of the mouth cannot be turned out by a "dental college" any more than a person qualified to practice gynecology could be graduated from a gynecological college. While there are many workmen, both honest and skilful, among dentists, there are but comparatively few physicians among them possessing a medical education and capable of treating such diseases as arise in connection with diseased teeth. That an oral or dental literature exists is due to the labors of medical men rather than dentists. THE RECORD has no wish to disparage the excellent work for which our American dentists are justly famed, but it is to be feared that the too superficial curriculum of the numerous dental schools springing up throughout the country, graduating persons to practise medicine (at least as specialists), will not only contribute to further lower the tone of medical education, but possibly divert attention from the mechanical training every dentist should receive.

CULTIVATION OF PATHOGENIC MICRO-ORGANISMS.—Dr. E. Bumm, of Würzburg, advocates, in the *Deutsche Med. Wochensch.*, the use of human blood-serum, adopted by Koch, asserting that it is the only convenient and safe method for producing some specific human micro-organisms. He obtains the serum from the placenta, whence alone he thinks a sufficient supply can be got under ordinary circumstances. He has lately thus cultivated the gonococcus, and, as compared with cultivation with the blood-serum of animals, he finds the results most satisfactory, being able to obtain successive generation. At the very outset, the advantage of the method is apparent in the immediate spreading of the gonococci from the periphery of the pus to the surface of the serum. His method is as follows: He obtains the blood while the placenta is still in the uterus. The umbilical cord having been in the usual way tied and cut, the rest of the cord is cleansed with corrosive sublimate and sterilized water, compressed with the fingers, and again cut above the ligature. The end of the cord is introduced into the neck of a glass retort, the pressure of the fingers is removed, and fifteen to twenty cubic centimetres of blood flow into the vessel at once, and, by waiting for successive pains, forty to sixty cubic centimetres. The blood must be allowed to stand undisturbed for eighteen to twenty-four hours. If proper coagulation follow, fifteen to twenty cubic centimetres of perfectly clear serum may be thus obtained.

OSTEO-MALACIA.—Dr. F. Piesbergen reports six cases of this affection seen in the course of four or five years at the clinic in Tübingen. But one of the cases was sent with the diagnosis previously made, and the writer believes that the disease is more common than is generally supposed, its frequency not being suspected by reason of diagnostic errors. The prognosis, in the earlier stages of the disease, is not wholly bad, and a suitable treatment is often productive of excellent results. It is important to make a careful examination of the pelvis and other parts of the skeleton in women, especially those who have borne many children, who complain of pain in the region of the pelvis, in the lower portion of the spine, and in the inferior extremities, and who experience difficulty in walking or standing. The treatment consists in promoting good nutrition by milk and cod-liver oil. The author places special reliance upon the salts of lime. He gives saccharated carbonate of iron, fifteen grains; carbonate of calcium and phosphate of calcium, each thirty grains; divide into twenty powders, and take one powder twice a day.—*Schmidt's Jahrbücher*, March 15, 1886.

Birth during Hypnosis.—Dr. Edward Pritzl records, in the *Wiener Med. Wochenschrift*, a case of this kind. A young woman was under his care in a lying-in hospital who, he had reason to believe, would be easily brought into a hypnotic condition; and some preliminary trials showed his surmise to be correct. When, therefore, the case ultimately proved to be one in which narcotics should in the usual course be employed, Dr. Pritzl determined to give hypnosis a trial. In spite of her pain and the nervous excitement produced by the presence of several medical men, who wished to witness the experiment, the woman, after looking but a few seconds at the brilliantly-illuminated thermometer-bulb that was passed before her eyes, sunk back, unconscious. The following observations were made: The intervals between the pains lasted nearly two minutes; the pains themselves were more violent than is usual under a narcotic, and lasted on an average fifty seconds, being at their height actively aided by the pressure of the abdominal muscles, and the intensity of the latter was quite normal. The patient was perfectly insensible, but the left lower arm was cramped and the left leg became stiff. There was no change observable in the right side. She turned her head hither and thither as if she were angry, frowned, and groaned. In the intervals, she resembled one asleep. In forty-five minutes from the time she became unconscious, a healthy child was born. In forty-five minutes after this, the woman was roused from her sleep, and would not believe she had been delivered, being hardly willing to own the child. The case, up to the time of writing, had taken a favorable course. Dr. Pritzl lays stress on the following points as remarkable: 1. It was easy to induce hypnosis in such a case as labor. 2. The pains were violent enough to arouse reflex action of the abdominal muscles, but not to rouse the patient. 3. Evidently the hypnotic state accelerated labor, for it had been expected to last several hours. 4. The after-birth stage, which lasted forty-five minutes, was remarkable for the character of the pains, which, though short, were intense and assisted by abdominal action. The loss of blood was slight. Dr. Pritzl has similarly experimented in two other cases, which, though successful, were neither so rapid nor so perfect.

Myrtol.—In a recent thèse de Paris, Dr. Linarix gives an account of the properties of this substance. Myrtol is both an antiseptic and a disinfectant agent. By its presence it prevents the decomposition of fermentative and putrescible organic substances; applied to the skin, it does not produce the slightest irritation, if the epithelium be intact. If there be a slight abrasion, a few drops will produce a very trifling burning sensation, which quickly goes off. Myrtol stimulates the digestive faculties; all who use it find their appetite increased. In small doses it acts as a sedative. It is eliminated by the lungs and kidneys, and has also a powerful balsamic action, but is more easily tolerated than most balsams. Its use is not followed by dyspepsia, nor by any of the other troubles attending the use of balsams in general. Dr. Linarix says that myrtol does not produce the same result at all periods of the affections of the respiratory system; in subacute and chronic catarrhal affections, it should be administered when fever has subsided; then the sputa become less abundant and less purulent. The drug is given in capsules containing each fifteen centigrams (2¼ grains), in doses of two capsules three times a day, before meals.—*British Medical Journal.*

Breathing Cold Air in a Warm Room.—Dr. J. H. Churchill, of Cross River, N. Y., writes: "Seeing a paragraph with this heading in the current number of The Medical Record, I am induced to describe a similar apparatus which I devised about ten years ago. Briefly, it consists of a face-piece of tin, guarded with soft rubber, to cover the mouth and nose, with attachments for two rubber tubes, and fitted with valves so that the air is inspired through one tube, and finds exit through the other. A board three inches wide, and of a length to fit the window in which it is to be used, is pierced with two tin tubes, and to them are attached the rubber tubes. The outer end of each tin tube is protected with wire-strainer cloth to prevent entrance of insects, and also a tin pent-house to guard against rain. The sash being raised the board is placed in the window, and the sash lowered upon it. This device benefits not only the patient, but the attendants also, who are thus relieved from breathing the excreted impurities. After the statement was published of the effect of cold on the tubercle bacillus, it occurred to me that this apparatus could be made efficient the year through by the use of a coil of pipe in broken ice through which the inspired air is drawn. Setting aside theoretical considerations, the practical advantages are, diminished cough (slight temporary increase), improved nutrition, with diminution of night-sweats due to better aëration of the blood, and the by no means unimportant consideration of immunity of the attendants from much that is disagreeable and unwholesome. The apparatus is held in place by a band of elastic webbing around the head, which permits the face-shield to be pushed to one side for the purpose of expectoration. There is one more point of which I have not yet made a practical test, but am about to do so. By arranging a spring so that it can be brought to bear on the outflow valve when wanted, and only when wanted, the effect of breathing into compressed air can be obtained, and a certain amount of expansion of the lung accomplished."

Gastric Syphilis.—Dr. L. Galliard reports some cases of gastric trouble successfully treated with mercury and iodine, and recalls two instances in which Klebs and Cornil found gummy tumors in the wall of the stomach. He concludes that there exists a syphilitic disease of the gastric mucous membrane, which consists in the presence of ulcerated gummata of the wall of this viscus. This gastric syphilis would seem to be less uncommon than has hitherto been supposed, and the author believes that many cases of alleged simple ulcer occurring in syphilitic patients are really referable to the action of the specific virus, and that much good would result from specific treatment in such cases.—*Schmidt's Jahrbücher*, March 15, 1886.

The Treatment of Disorders of the Stomach.—1. *Dyspepsia.*—Causes of Functional Indigestion: (1) Eating too rapidly; (2) drinking too much water at meal-time; (3) improper food; (4) want of exercise; (5) too much tea and coffee; (6) too much tobacco. Treatment: Underdone meats and but little bread. No sweets. Pepsin sacch., gr. v., at each meal. The mineral acids before meals, as muriatic, nitro-muriatic, or phosphoric. Certain bitters, as nux vomica and strychnine combined with gentian or calumba. An alkali a few hours after meals when there is great acidity, but should not be used too frequently.

2. *Dilatation of the Stomach.* — Treatment: Dry, solid food; underdone meats; no milk. Carbolic acid to allay fermentation. Wash out stomach occasionally. Strychnia, hypodermatically or by mouth.

3. *Chronic Gastritis.*—Treatment: Cause to be removed. A scanty supply of food. Pepsin at each meal (gr. v.). Milk, with a little meat, may be taken as food. Oxide of silver, gr. ¼, a dose, will be found of value. Bismuth is useful. Avoid tonics, but use the mineral waters to keep portal system drained.

4. *Gastric Pain* (*Gastralgia*).—Treatment: Diet of little importance; stimulus at meals in small amounts. Morphia relieves at once, but use it carefully. (1) Bismuth, with a little opium; (2) nitro-muriatic acid, gtt. ij.–iij., diluted; or, (3) Morph. sulph., gr. $\frac{1}{32}$; acid. carbolici, gt. j.; aq. menth. pip. ad f 3 j., ter die; (4) Fowler's solution, beginning with gt. j. and increase to gtt. v., ter die.—Dr. Da Costa, in *Coll. and Clin. Record.*

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